Venci
09/733801

=> fil reg
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 09:13:44 ON 22 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 21 JUN 2004 HIGHEST RN 697224-75-2
DICTIONARY FILE UPDATES: 21 JUN 2004 HIGHEST RN 697224-75-2

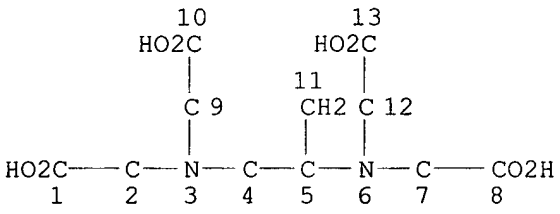
TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

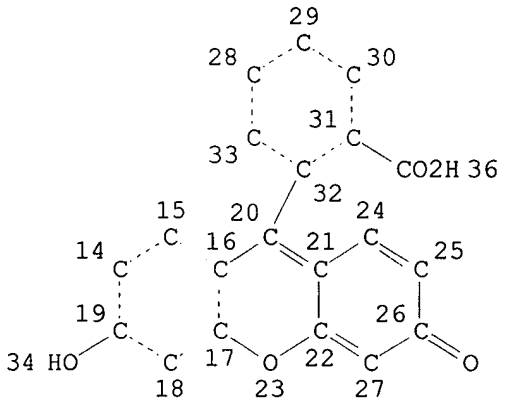
Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> => d l3 que stat
L1 STR





Page 1-A

35

Page 1-B
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

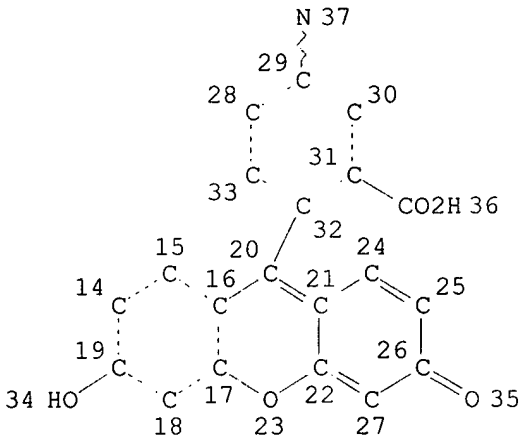
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 36

STEREO ATTRIBUTES: NONE
L3 0 SEA FILE=REGISTRY SSS FUL L1

Searched by: Mary Hale 571-272-2507 REM 1D86

100.0% PROCESSED 39 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.02

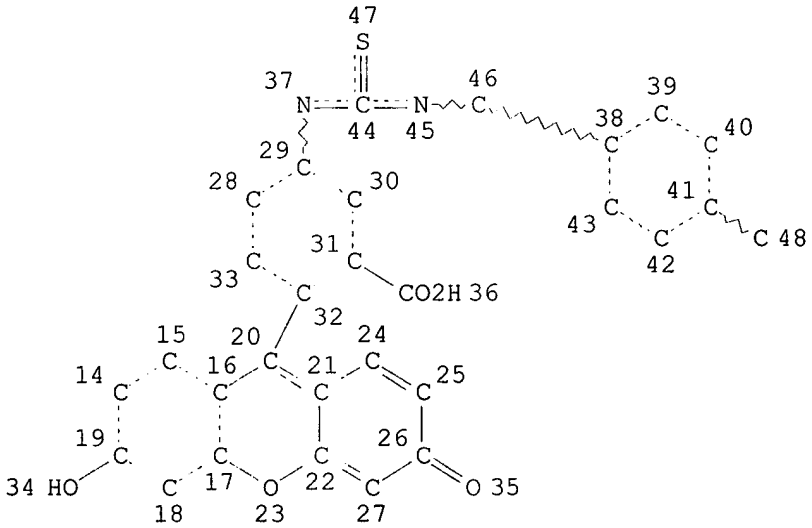
=> => d l10 que stat
L6 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE
L8 59 SEA FILE=REGISTRY SSS FUL L6
L9 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

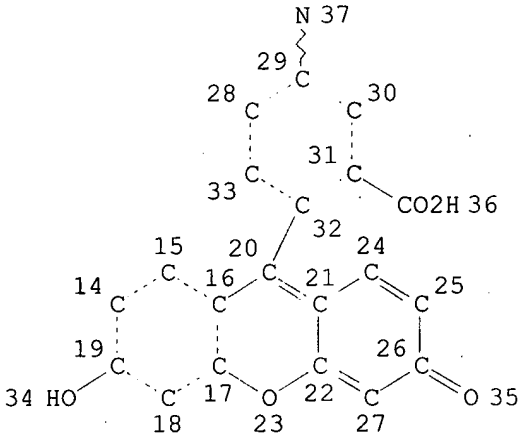
Searched by: Mary Hale 571-272-2507 REM 1D86

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 35

STEREO ATTRIBUTES: NONE
L10 0 SEA FILE=REGISTRY SUB=L8 SSS FUL L9

100.0% PROCESSED 6 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

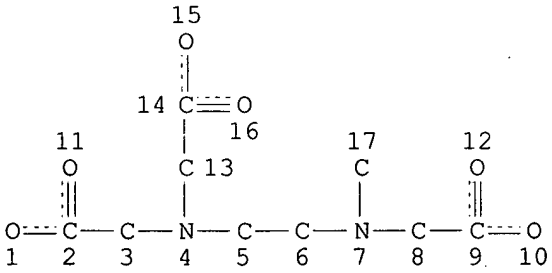
=> => d l12 que stat
L6 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE
L8 59 SEA FILE=REGISTRY SSS FUL L6
L11 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

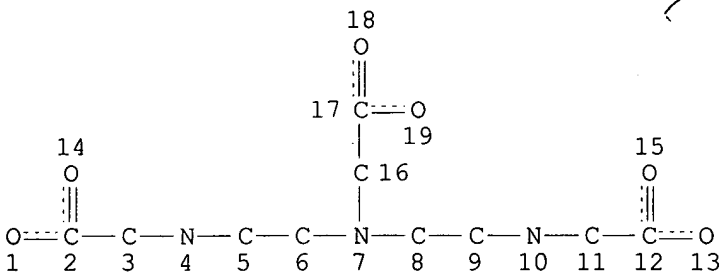
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 17

Searched by: Mary Hale 571-272-2507 REM 1D86

STEREO ATTRIBUTES: NONE
L12 0 SEA FILE=REGISTRY SUB=L8 SSS FUL L11

100.0% PROCESSED 0 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

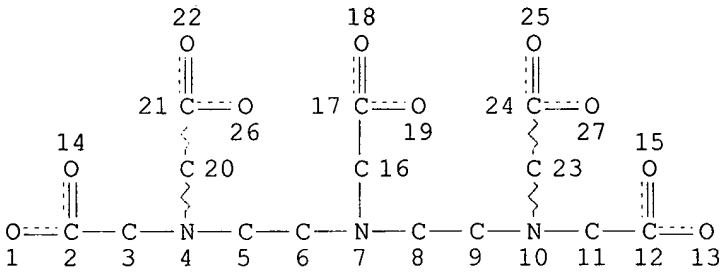
=> => d l19 que stat;
L13 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 19

STEREO ATTRIBUTES: NONE
L15 2485 SEA FILE=REGISTRY SSS FUL L13
L16 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 27

STEREO ATTRIBUTES: NONE
L17 1190 SEA FILE=REGISTRY SUB=L15 SSS FUL L16
L18 STR

M 1

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

Searched by: Mary Hale 571-272-2507 REM 1D86

claim 1

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 1

STEREO ATTRIBUTES: NONE
L19 113 SEA FILE=REGISTRY SUB=L17 SSS FUL L18

100.0% PROCESSED 1190 ITERATIONS 113 ANSWERS
SEARCH TIME: 00.00.01

=> fil medl,hcap,embase,biosis;s l19 and (fluorophore or fluorescen? or antichelat? or anti chelat?)
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	818.37	818.58

FILE 'MEDLINE' ENTERED AT 09:35:10 ON 22 JUN 2004

FILE 'HCAPLUS' ENTERED AT 09:35:10 ON 22 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE 'EMBASE' ENTERED AT 09:35:10 ON 22 JUN 2004

FILE 'BIOSIS' ENTERED AT 09:35:10 ON 22 JUN 2004

L22 0 FILE MEDLINE
L23 12 FILE HCAPLUS
L24 0 FILE EMBASE
L25 1 FILE BIOSIS

TOTAL FOR ALL FILES
L26 13 L19 AND (FLUOROPHORE OR FLUORESCEN? OR ANTICHELAT? OR ANTI CHELAT?)

=> dup rem l26
PROCESSING COMPLETED FOR L26
L27 13 DUP REM L26 (0 DUPLICATES REMOVED)

=> d 1-13 cbib abs hitstr

L27 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN
2004:251965 Document No. 140:292622 Systems and methods for high-resolution in vivo imaging of biochemical activity in a living organism. Hancu, Ileana; Amaratunga, Mohan Mark; Wicht, Denyce Kramer; Dhawale, Paritosh; Ishaque, Nadeem; Syud, Faisal Ahmed; Johnson, Bruce Fletcher; Williams, Amy Casey (USA). U.S. Pat. Appl. Publ. US 2004057903 A1 20040325, 29 pp. (English). CODEN: USXXCO. APPLICATION: US 2002-252311 20020923.
AB This invention relates to bifunctional detection agents useful for providing high-resolution, in vivo imaging of biochem. activity in a living organism. Methods of using these bifunctional detection agents may comprise administering them into a living organism, and then estimating the localization of the detection agent using one modality (i.e., MRI), while concurrently estimating the level of biol. activity using a second modality (i.e., optical imaging). One of the bifunctional detection agents

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comprises a magnetic resonance component and an optical imaging component. The magnetic resonance component comprises a contrast agent that is always activated or "on". The optical imaging component comprises an activatable contrast agent or dye that is activated or turned "on" only in the presence of a particular event. For example, the optical imaging component may be activated by a certain wavelength of light and (1) by the presence of a particular biochem. marker, (2) by enzyme cleavage, or (3) by a change in the temperature or pH of the surrounding medium. These bifunctional detection agents allow both anatomical and functional/metabolic information to be obtained simultaneously.

IT **674799-57-6P**

RL: DGN (Diagnostic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(bifunctional detection agents comprises magnetic resonance and optical imaging components)

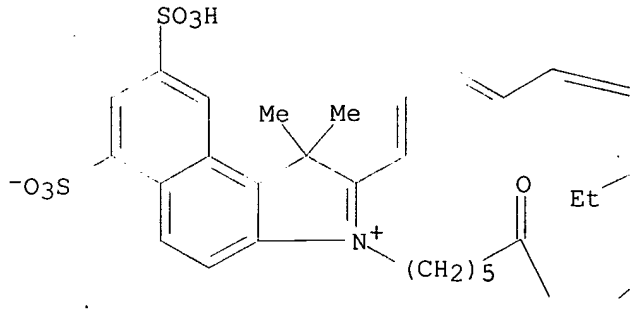
RN 674799-57-6 HCAPLUS

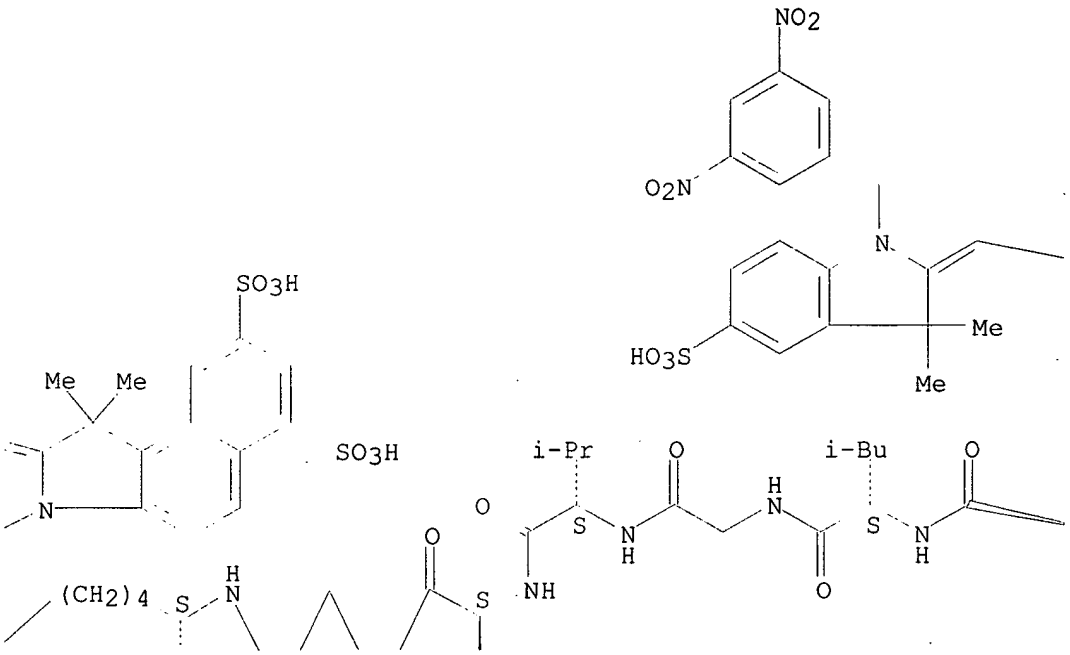
CN L-Aspartamide, N-[6-[2-[7-[1-[(3,5-dinitrophenyl)methyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-5-sulfo-3H-indolio]-1-oxohexyl]glycyl-L-prolyl-L-leucylglycyl-L-valyl-L-arginylglycyl-N6-[6-[2-[5-(3-ethyl-1,3-dihydro-1,1-dimethyl-6,8-disulfo-2H-benz[e]indol-2-ylidene)-1,3-pentadienyl]-1,1-dimethyl-6,8-disulfo-1H-benz[e]indolio]-1-oxohexyl]-L-lysylglycyl-N4-[4-[2-[bis(carboxymethyl)amino]-3-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]propyl]phenyl]-, inner salt, acetate, pentapotassium salt (9CI) (CA INDEX NAME)

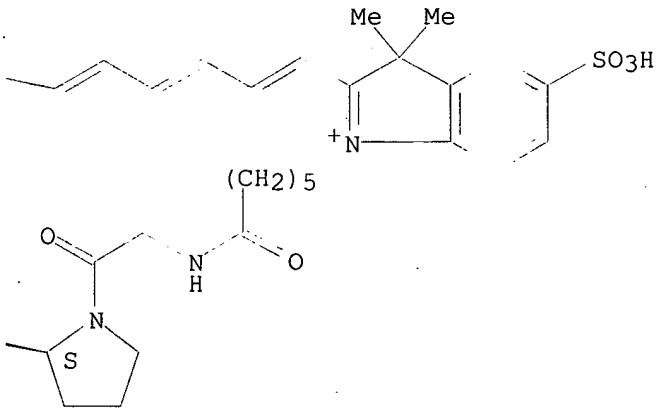
CM 1

CRN 674799-56-5
CMF C142 H182 N25 O45 S6

Absolute stereochemistry.
Double bond geometry unknown.







Searched by: Mary Hale 571-272-2507 REM 1D86

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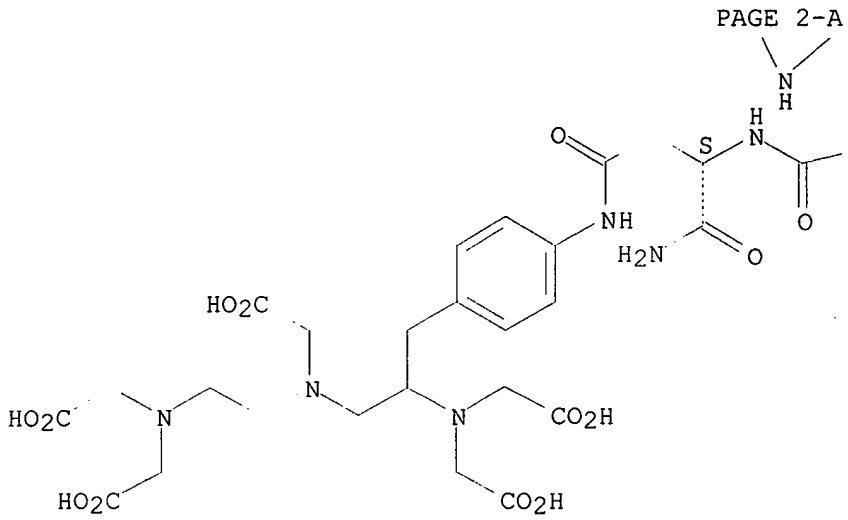
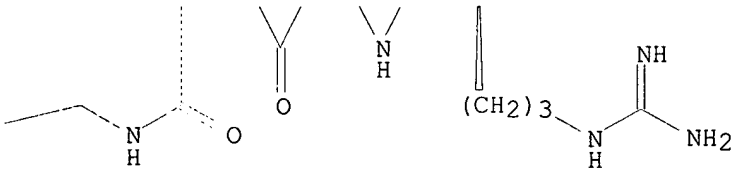
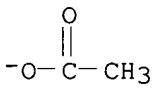


PAGE 2-B



CM 2

CRN 71-50-1
CMF C2 H3 O2



IT **674799-55-4P 674799-62-3DP**, resin-bound
674799-63-4P 674799-65-6P 674799-71-4DP,
resin-bound **674799-72-5P 674799-74-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(bifunctional detection agents comprises magnetic resonance and optical imaging components)

RN 674799-55-4 HCAPLUS

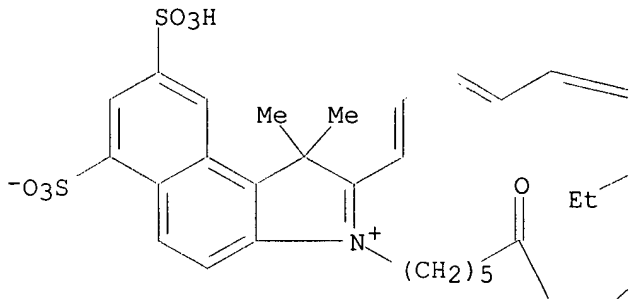
CN L-Aspartamide, N-[6-[2-[7-[1-[(3,5-dinitrophenyl)methyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-5-sulfo-3H-indolio]-1-oxohexyl]glycyl-L-prolyl-L-leucylglycyl-L-valyl-L-arginylglycyl-N6-[6-[2-[5-(3-ethyl-1,3-dihydro-1,1-dimethyl-6,8-disulfo-2H-benz[e]indol-2-ylidene)-1,3-pentadienyl]-1,1-dimethyl-6,8-disulfo-1H-benz[e]indolio]-1-oxohexyl]-L-lysylglycyl-N4-[4-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]-3-[[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl][2-(1,1-dimethylethoxy)-2-oxoethyl]amino]propyl]phenyl]-, inner salt, acetate, pentapotassium salt (9CI) (CA INDEX NAME)

Searched by: Mary Hale 571-272-2507 REM 1D86

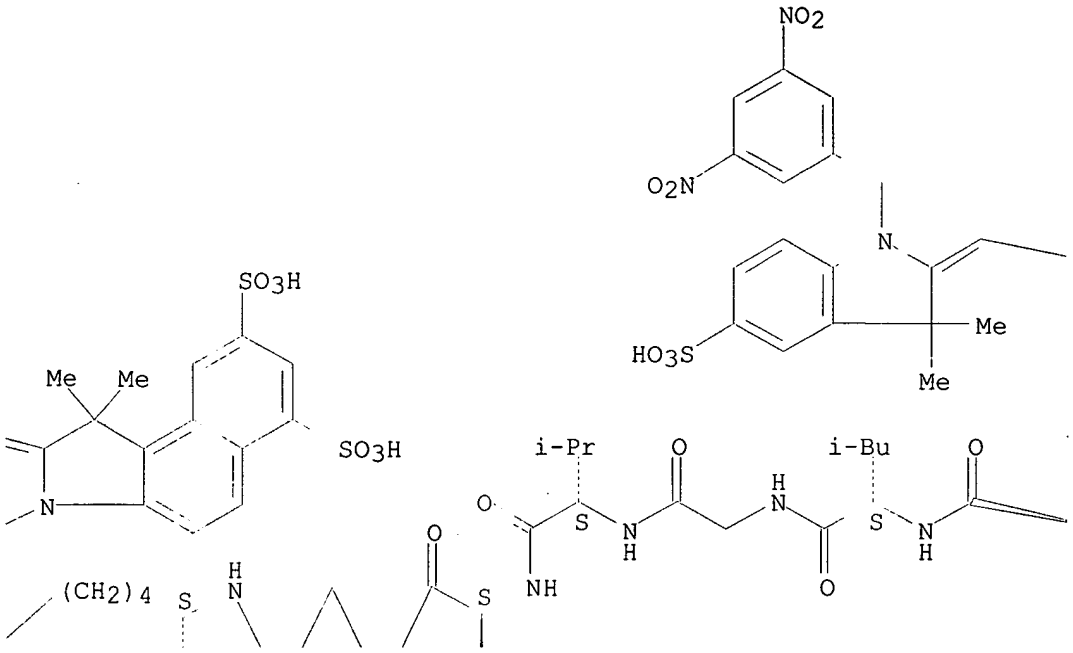
CM 1

CRN 674799-54-3
CMF C162 H222 N25 O45 S6

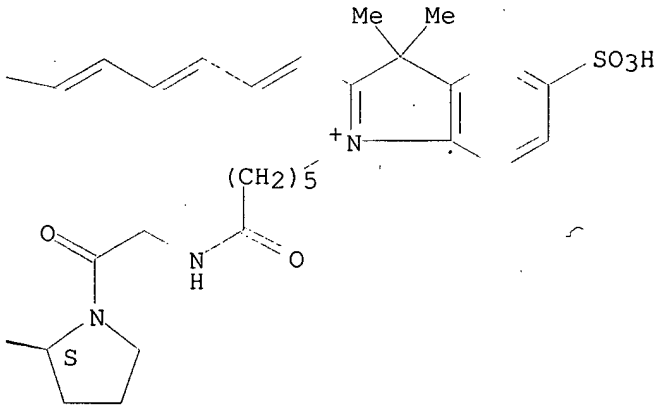
Absolute stereochemistry.
Double bond geometry unknown.



PAGE 1-B

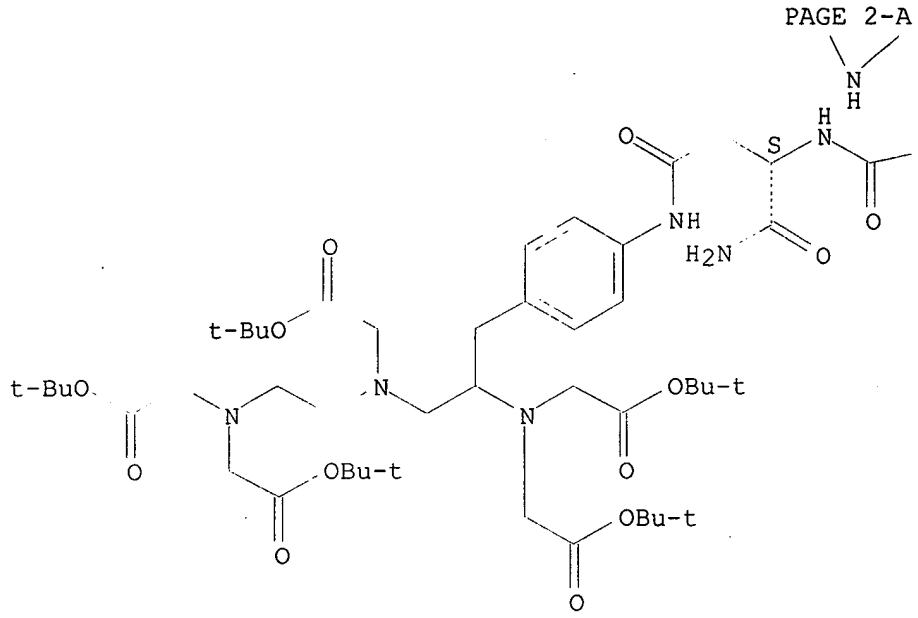


PAGE 1-C

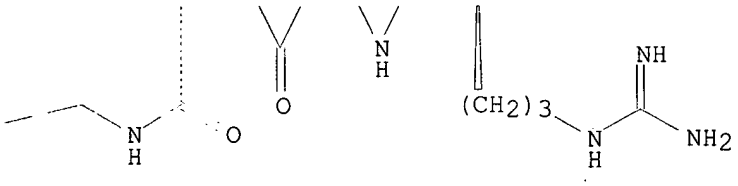


Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 2-A

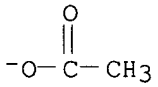


PAGE 2-B



CM 2

CRN 71-50-1
CMF C2 H3 O2

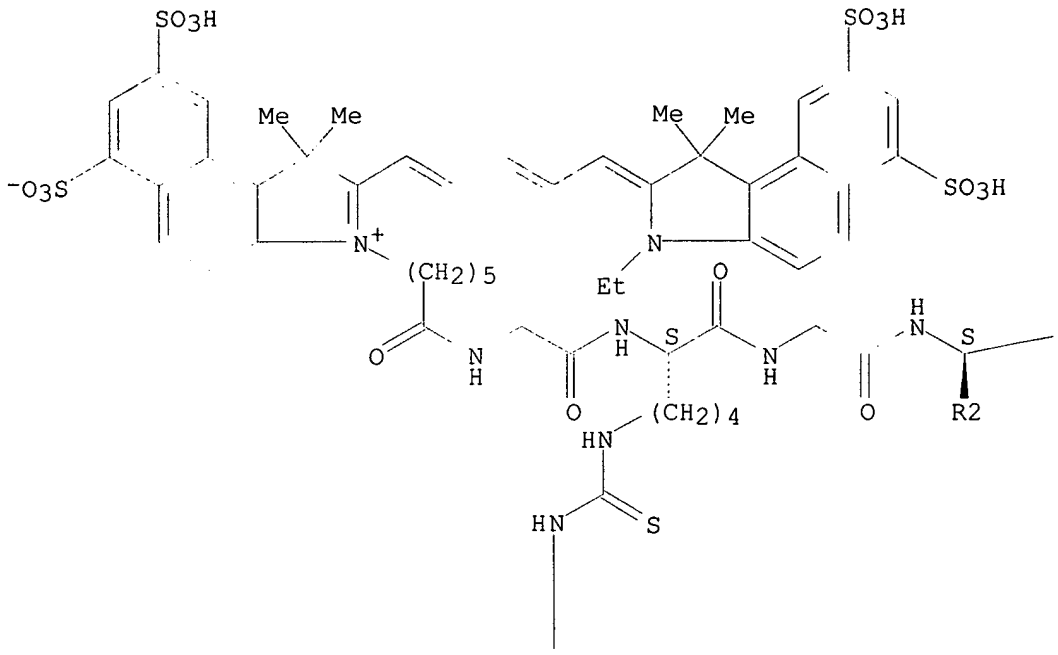


RN 674799-62-3 HCAPLUS
CN L-Lysinamide, N-[6-[2-[5-(3-ethyl-1,3-dihydro-1,1-dimethyl-6,8-disulfo-2H-benz[e]indol-2-ylidene)-1,3-pentadienyl]-1,1-dimethyl-6,8-disulfo-1H-benz[e]indolio]-1-oxohexyl]glycyl-N6-[[[4-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]-3-[[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl][2-(1,1-dimethylethoxy)-2-oxoethyl]amino]propyl]phenyl]amino]thioxomethyl]-L-lysylglycyl-N5-[[[(3,4-dihydro-3,3,5,6,8-pentamethyl-2H-1-benzopyran-7-yl)sulfonyl]amino]iminomethyl]-L-ornithyl-L-valylglycyl-L-leucyl-L-prolylglycyl-N6-[(1,1-dimethylethoxy)carbonyl]-, inner salt, tripotassium salt (9CI) (CA INDEX NAME)

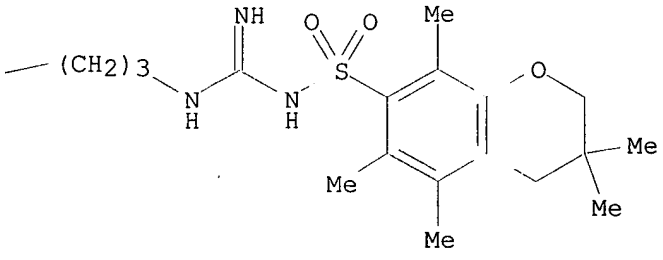
Absolute stereochemistry.
Double bond geometry unknown.

Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 1-A

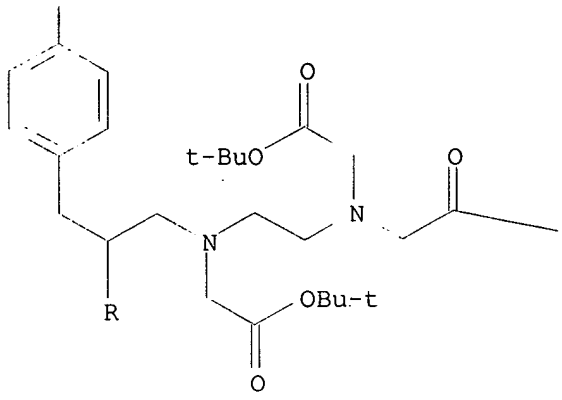


PAGE 1-B



Searched by: Mary Hale 571-272-2507 REM 1D86

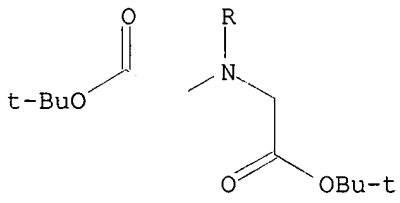
PAGE 2-A



PAGE 2-B

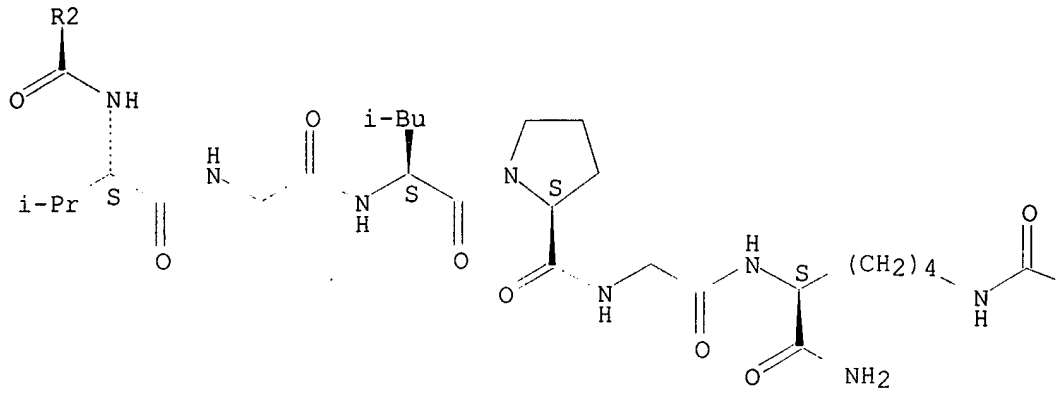
—OBu-t

PAGE 3-A



Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 4-A



●3 K

PAGE 4-B

OBu-t

RN 674799-63-4 HCAPLUS
CN L-Lysinamide, N-[6-[2-[5-(3-ethyl-1,3-dihydro-1,1-dimethyl-6,8-disulfo-2H-benz[e]indol-2-ylidene)-1,3-pentadienyl]-1,1-dimethyl-6,8-disulfo-1H-benz[e]indolio]-1-oxohexyl]glycyl-N6-[[[4-[2-[bis(carboxymethyl)amino]-3-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]propyl]phenyl]amino]thioxomethyl]-L-lysylglycyl-L-arginyl-L-valylglycyl-L-leucyl-L-prolylglycyl-, inner salt, tripotassium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

Searched by: Mary Hale 571-272-2507 REM 1D86

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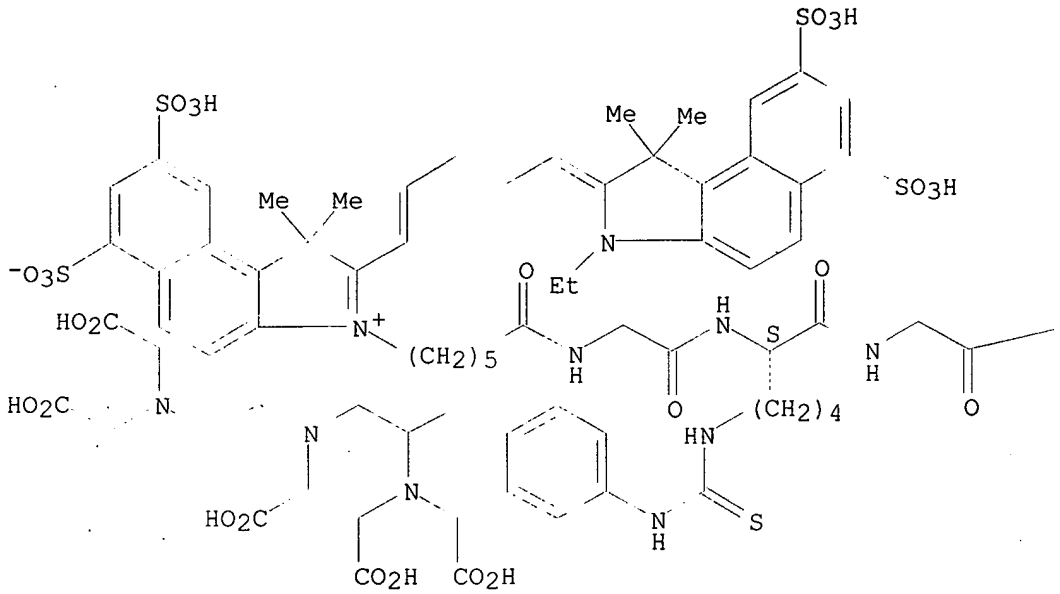
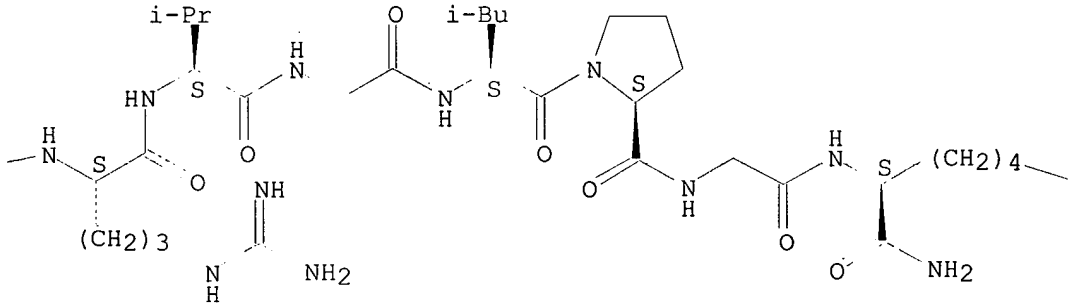


PAGE 1-B



Searched by: Mary Hale 571-272-2507 REM 1D86

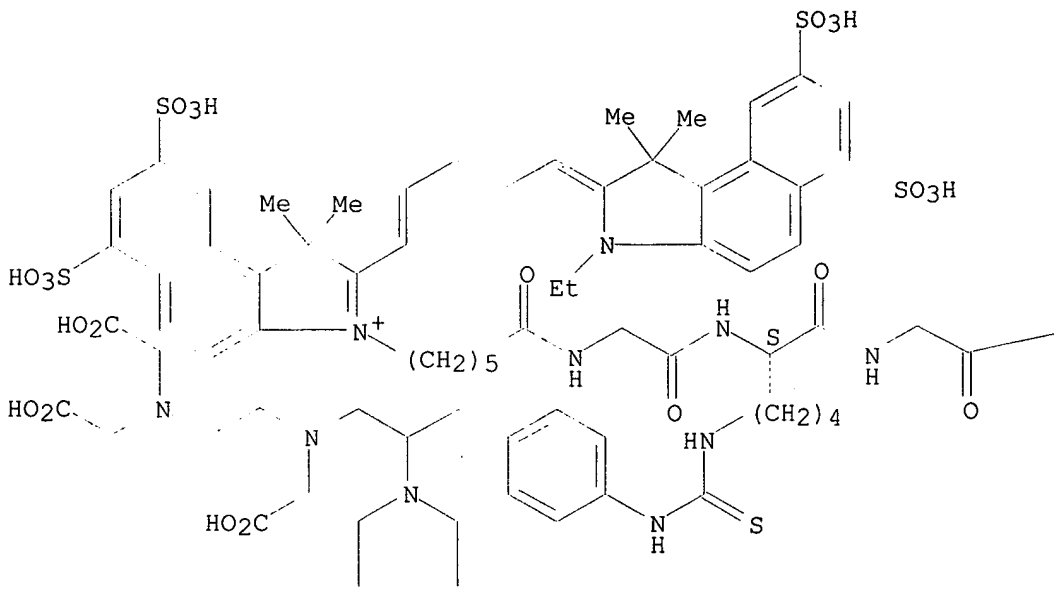
RN 674799-65-6 HCAPLUS
CN L-Lysinamide, N-[6-[2-[5-(3-ethyl-1,3-dihydro-1,1-dimethyl-6,8-disulfo-2H-benz[e]indol-2-ylidene)-1,3-pentadienyl]-1,1-dimethyl-6,8-disulfo-1H-benz[e]indolio]-1-oxohexyl]glycyl-N6-[[[4-[2-[bis(carboxymethyl)amino]-3-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]propyl]phenyl]amino]thioxomethyl]-L-lysylglycyl-L-arginyl-L-valylglycyl-L-leucyl-L-prolylglycyl-N6-[6-[2-[7-[1-[(3,5-dinitrophenyl)methyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-5-sulfo-3H-indolio]-1-oxohexyl]-, inner salt, salt with trifluoroacetic acid (1:1:1), pentapotassium salt (9CI) (CA INDEX NAME)

CM 1

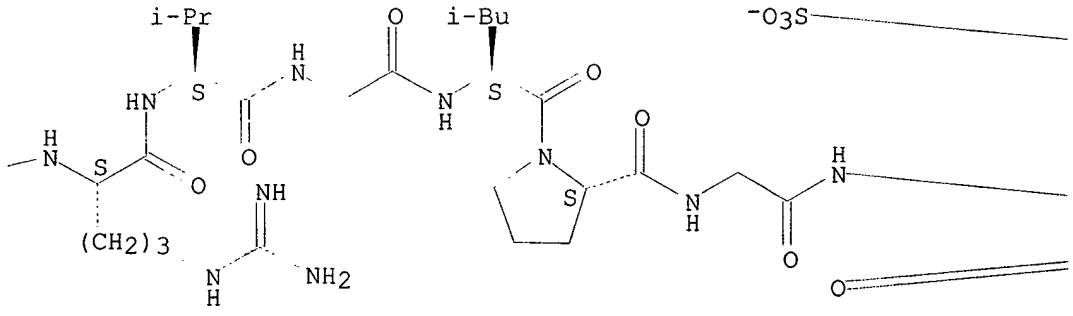
CRN 674799-64-5
CMF C145 H189 N26 O44 S7

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A

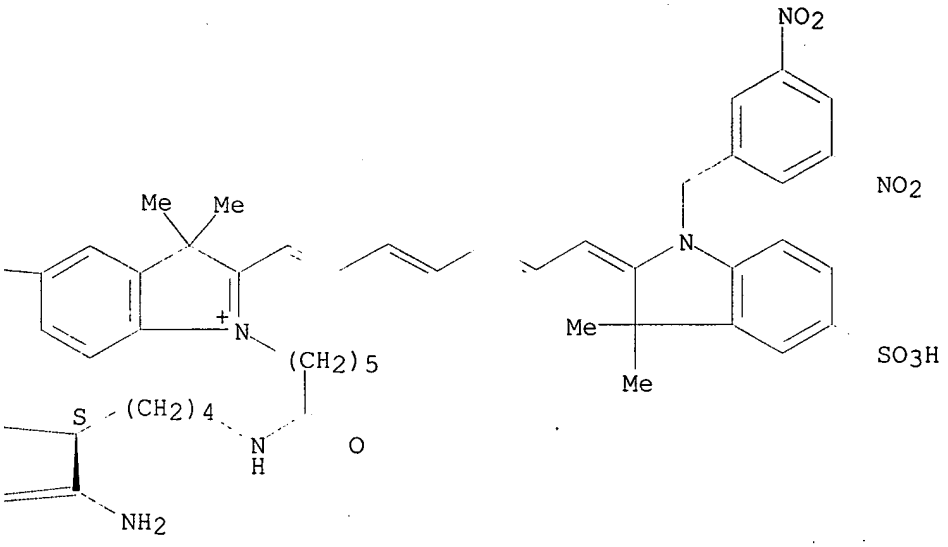


PAGE 1-B

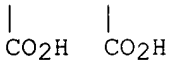


Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 1-C

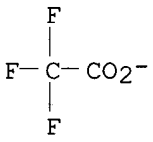


PAGE 2-A



CM 2

CRN 14477-72-6
CMF C2 F3 O2

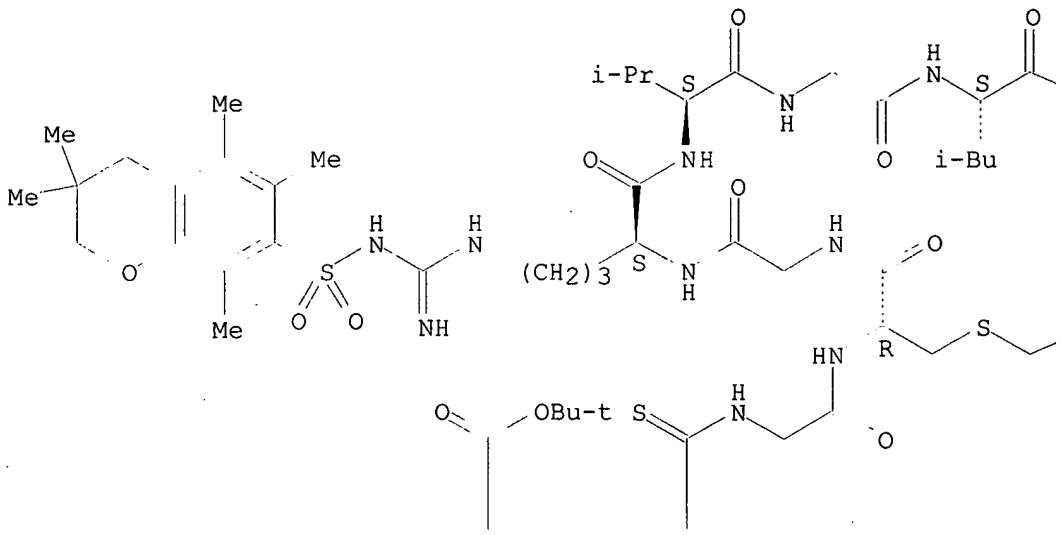


RN 674799-71-4 HCAPLUS
CN L-Lysinamide, N-[[[4-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]-3-[[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl][2-(1,1-dimethylethoxy)-2-oxoethyl]amino]propyl]phenyl]amino]thioxomethyl]glycyl-S-[2-[[[2-[5-[1,3-dihydro-3,3-dimethyl-5-sulfo-1-(2-sulfoethyl)-2H-indol-2-ylidene]-1,3-pentadienyl]-1,3,3-trimethyl-3H-indolium-5-yl]methyl]amino]-2-oxoethyl]-L-cysteinylglycyl-N5-[[[(3,4-dihydro-3,3,5,6,8-pentamethyl-2H-1-benzopyran-7-yl)sulfonyl]amino]iminomethyl]-L-ornithyl-L-valylglycyl-L-leucyl-L-prolylglycyl-N6-[(1,1-dimethylethoxy)carbonyl]-, inner salt, monosodium salt (9CI) (CA INDEX NAME)

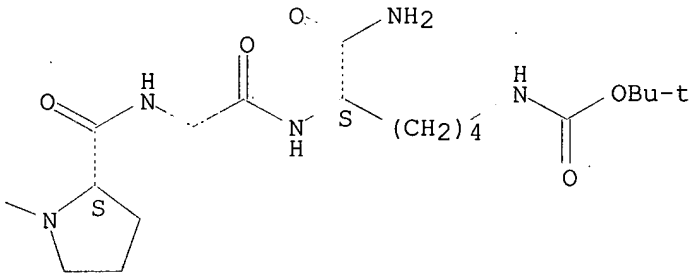
Absolute stereochemistry.
Double bond geometry unknown.

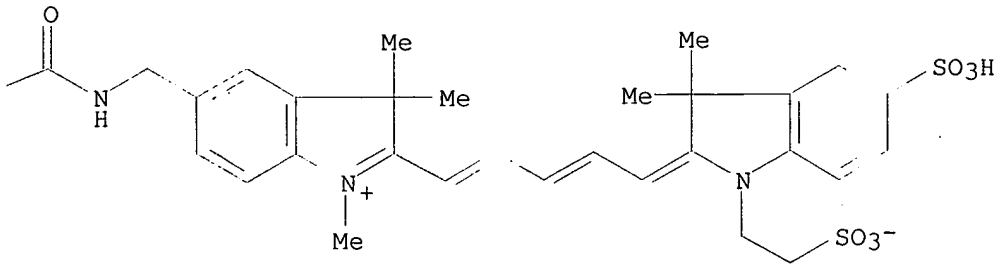
Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 1-A



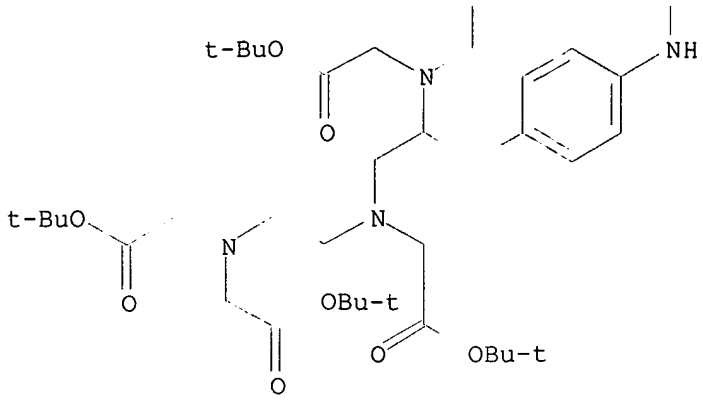
PAGE 1-B





Searched by: Mary Hale 571-272-2507 REM 1D86

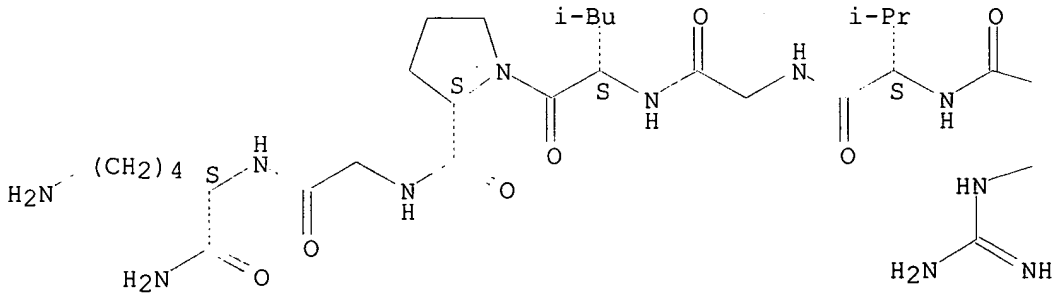
PAGE 2-A



RN 674799-72-5 HCAPLUS
CN L-Lysinamide, N-[[[4-[2-[bis(carboxymethyl)amino]-3-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]propyl]phenyl]amino]thioxomethyl]glycyl-S-[2-[[[2-[5-[1,3-dihydro-3,3-dimethyl-5-sulfo-1-(2-sulfoethyl)-2H-indol-2-ylidene]-1,3-pentadienyl]-1,3,3-trimethyl-3H-indolium-5-yl]methyl]amino]-2-oxoethyl]-L-cysteinylglycyl-L-arginyl-L-valylglycyl-L-leucyl-L-prolylglycyl-, inner salt, monosodium salt (9CI) (CA INDEX NAME)

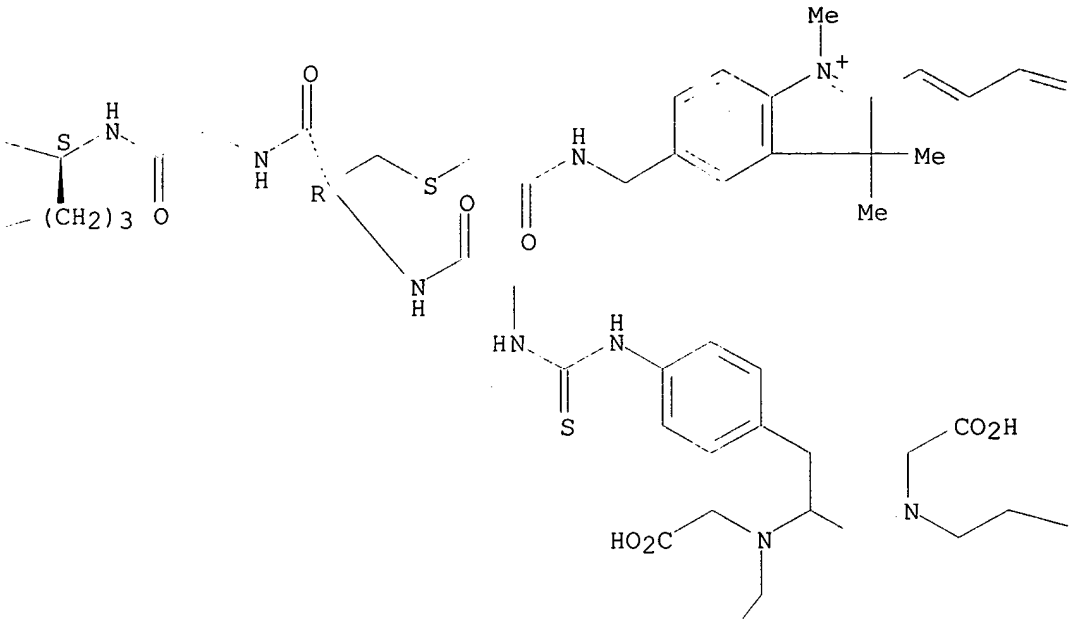
Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A

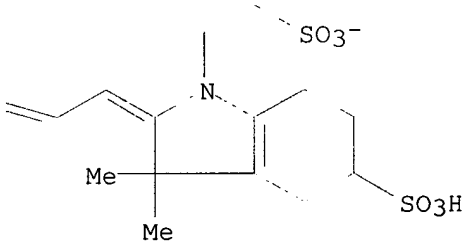


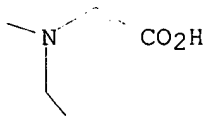
Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 1-B



PAGE 1-C





Searched by: Mary Hale 571-272-2507 REM 1D86

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PAGE 2-C

RN 674799-74-7 HCAPLUS
CN L-Lysinamide, N-[[[4-[2-[bis(carboxymethyl)amino]-3-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]propyl]phenyl]amino]thioxomethyl]glycyl-S-[2-[[[2-[5-[1,3-dihydro-3,3-dimethyl-5-sulfo-1-(2-sulfoethyl)-2H-indol-2-ylidene]-1,3-pentadienyl]-1,3,3-trimethyl-3H-indolium-5-yl]methyl]amino]-2-oxoethyl]-L-cysteinylglycyl-L-arginyl-L-valylglycyl-L-leucyl-L-prolylglycyl-N6-[6-[2-[7-[1-[(3,5-dinitrophenyl)methyl]-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-5-sulfo-3H-indolio]-1-oxohexyl]-, inner salt, salt with trifluoroacetic acid (1:1:1), dipotassium monosodium salt (9CI) (CA INDEX NAME)

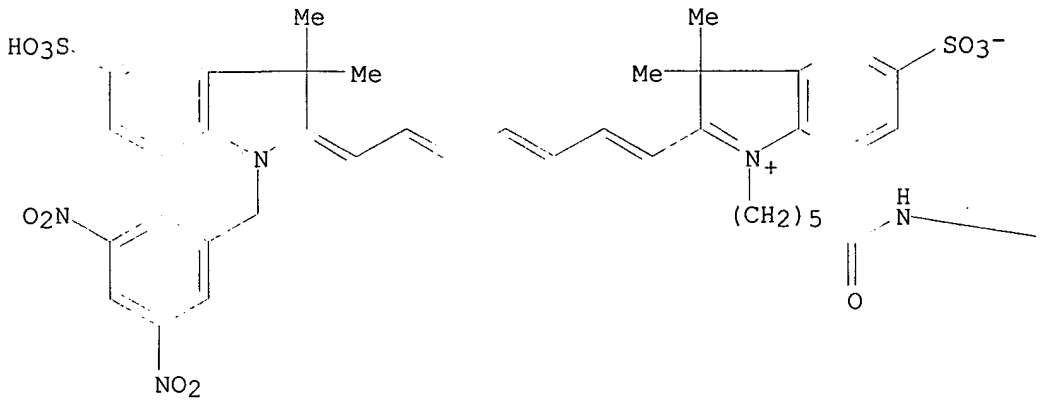
CM 1

CRN 674799-73-6
CMF C132 H175 N26 O38 S6

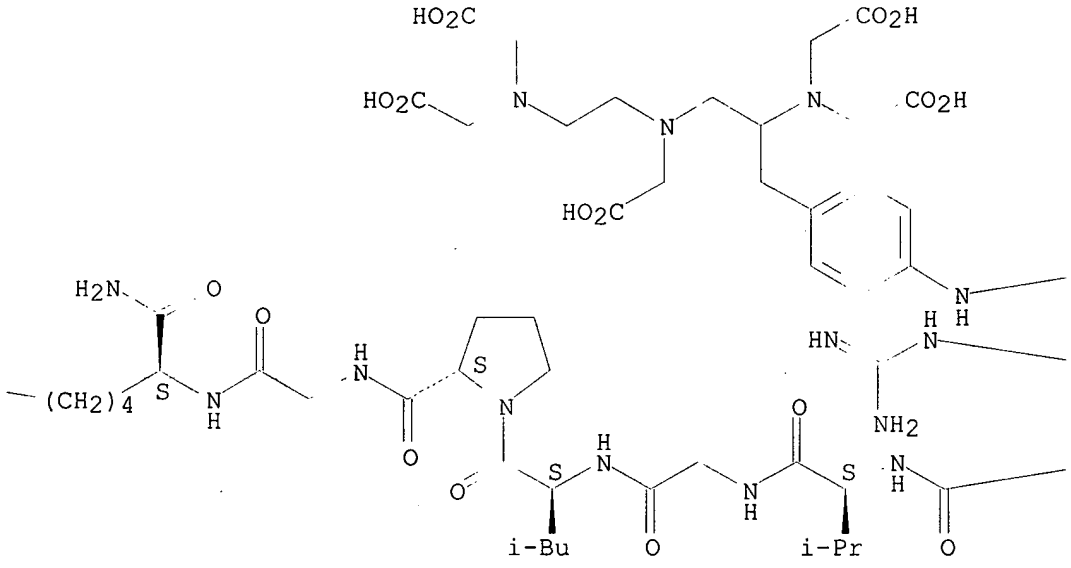
Absolute stereochemistry.
Double bond geometry unknown.

Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 1-A

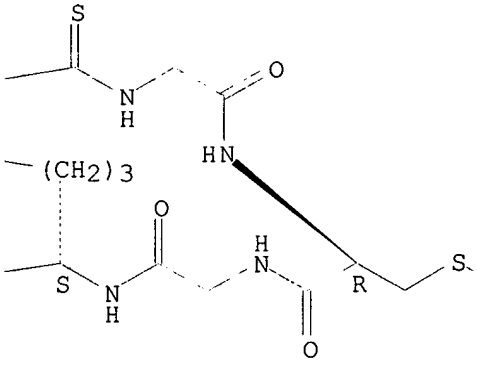


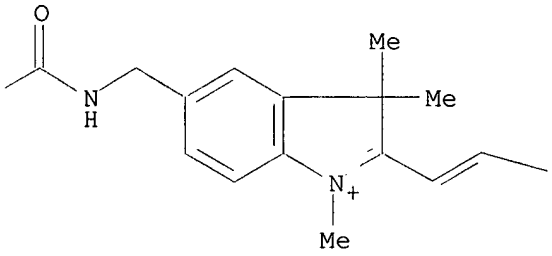
PAGE 1-B



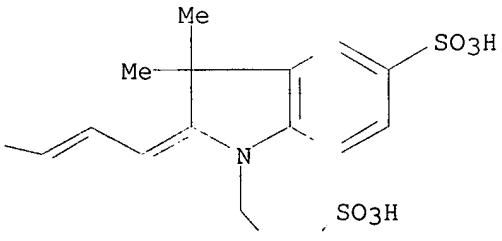
Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 1-C





PAGE 1-D

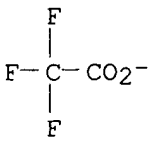


PAGE 2-D

Searched by: Mary Hale 571-272-2507 REM 1D86

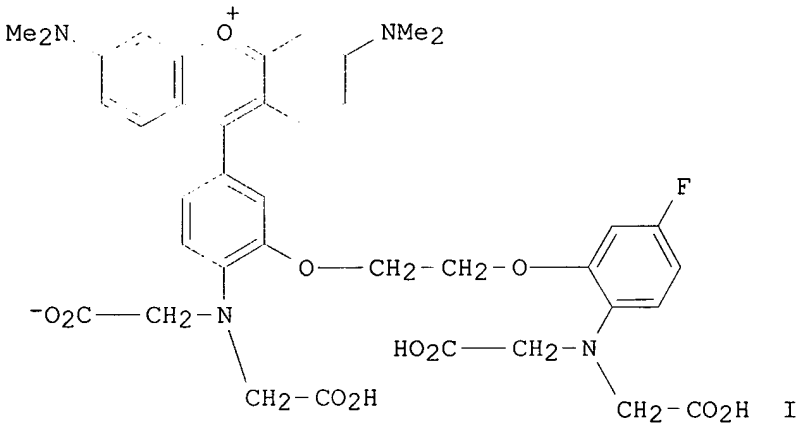
CM 2

CRN 14477-72-6
CMF C2 F3 O2



L27 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN
2004:162337 Document No. 140:213577 Compositions and methods for detection and isolation of phosphorylated molecules. Agnew, Brian; Beechem, Joseph; Gee, Kyle; Haugland, Richard; Liu, Jixiang; Martin, Vladimir; Patton, Wayne; Steinberg, Thomas (USA). U.S. Pat. Appl. Publ. US 2004038306 A1 20040226, 83 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-428192 20030502. PRIORITY: US 2002-PV377733 20020503; US 2002-PV393059 20020628; US 2002-PV407255 20020830; US 2003-PV440252 20030114.

GI



I

AB The present invention relates to phosphate-binding compds. that find use in binding, detecting and isolating phosphorylated target mols. including the subsequent identification of target mols. that interact with phosphorylated target mols. or mols. capable of being phosphorylated. A binding solution is provide that comprises a phosphate-binding compound, an acid and a metal ion wherein the metal ion simultaneously interacts with an exposed phosphate group on a target mol. and the metal chelating moiety of the phosphate-binding compound forming a bridge between the phosphate-binding compound and a phosphorylated target mol. resulting in a ternary complex. The binding solution of the present invention finds use in binding and detecting immobilized and solubilized phosphorylated target mols., isolation of phosphorylated target mols. from a complex mixture and aiding in proteomic anal. wherein kinase and phosphatase substrates and enzymes can be identified. A human MRC-5 lung fibroblast cell lysate protein mixture was separated by two-dimensional gel electrophoresis. The gel

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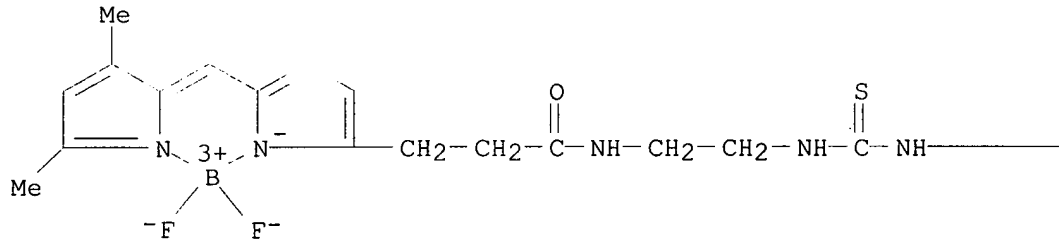
was fixed and then phosphoproteins were stained with a solution containing 50 mM
NaOAc, pH 4.0, 250 mM NaCl, 20% volume/volume 1,2-propanediol, 1 μM rhodamine-BAPTA chelating compound I, and 1 μM gallium chloride.

IT **663932-43-2P 663932-44-3P 663932-45-4P**
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(in precipitation of phosphopeptides; metal ions, acids, and chelating phosphate-binding agents for detection and isolation of phosphorylated mols.)

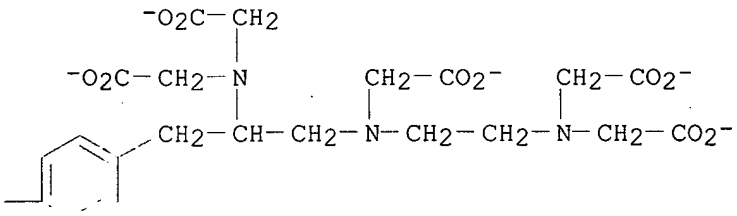
RN 663932-43-2 HCAPLUS
CN Borate(5-), [N-[(2S)-2-[bis(carboxymethyl)amino]-3-[4-[[[[2-[[3-[5-[(3,5-dimethyl-2H-pyrrol-2-ylidene-κN)methyl]-1H-pyrrol-2-yl-κN]-1-oxopropyl]amino]ethyl]amino]thioxomethyl]amino]phenyl]propyl]-N-[2-[bis(carboxymethyl)amino]ethyl]glycinato(6-)]difluoro-, pentapotassium, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A



● 5 K^+

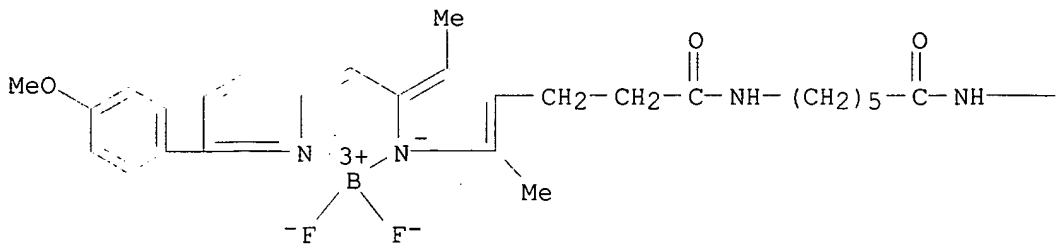
PAGE 1-B



RN 663932-44-3 HCAPLUS
CN Borate(5-), [N-[2-[bis(carboxymethyl)amino]ethyl]-N-[(2S)-2-[bis(carboxymethyl)amino]-3-[4-[[6-[[6-[[3-[5-[[5-(4-methoxyphenyl)-2H-pyrrol-2-ylidene-κN]methyl]-2,4-dimethyl-1H-pyrrol-3-yl-κN]-1-oxopropyl]amino]-1-oxohexyl]amino]-1-oxohexyl]amino]phenyl]propyl]glycinato(6-)]difluoro-, pentapotassium, (T-4)- (9CI) (CA INDEX NAME)

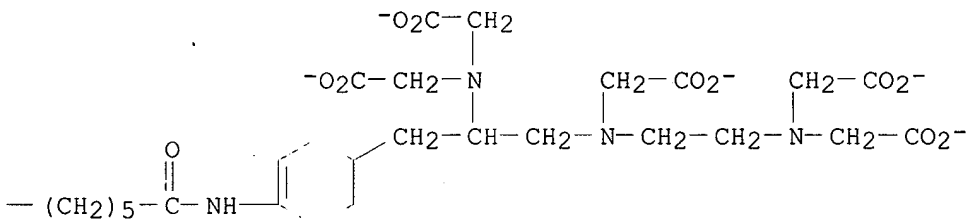
Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 1-A



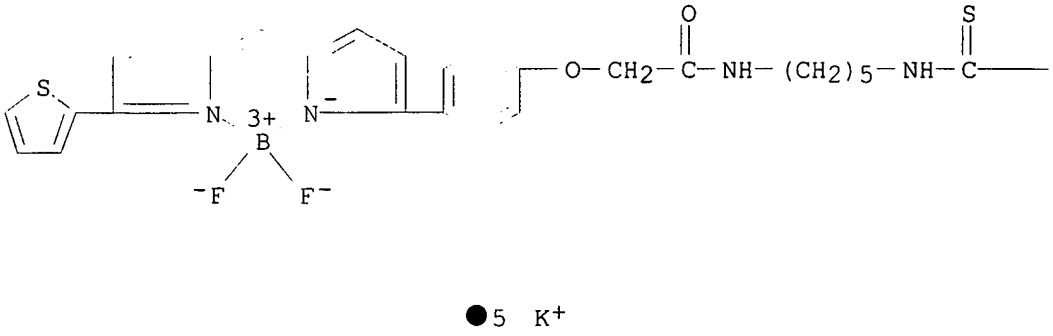
● 5 K^+

PAGE 1-B

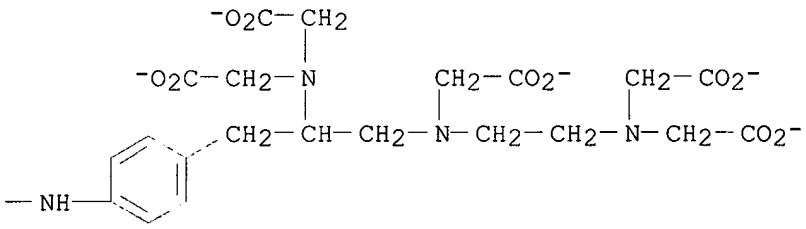


RN 663932-45-4 HCAPLUS
CN Borate(5-), [N-[2-[bis(carboxymethyl)amino]ethyl]-N-[(2S)-2-[bis(carboxymethyl)amino]-3-[4-[[[[5-[[[4-[5-[[5-(2-thienyl)-2H-pyrrol-2-ylidene-κN]methyl]-1H-pyrrol-2-yl-κN]phenoxy]acetyl]amino]pentyl]amino]thioxomethyl]amino]phenyl]propyl]glycinato(6-)]difluoro-, pentapotassium, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L27 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN
2002:30997 Document No. 136:102654 Preparation of conjugates of peptides and lanthanide-chelates for use as **fluorescence** diagnostic materials in vivo or in vitro. Bauer, Michael; Becker, Andreas; Licha, Kai; Bornhop, Darryl; Platzek, Johannes (Shering Aktiengesellschaft, Germany). Eur. Pat. Appl. EP 1170021 A2 20020109, 97 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (German). CODEN: EPXXDW. APPLICATION: EP 2001-250164 20010514. PRIORITY: US 2000-571407 20000515.

AB Synthesis of title compds., consisting of peptides, fragments, or analogs, composed of either D- or L-amino acids, based on vasoactive intestinal peptide, somatostatin, or neurotensin sequences, bearing chelating groups, were prepared for use as **fluorescent** diagnostic materials for identification of tumors of the gastrointestinal tract, esophagus, urogenital tract, or lung. Peptide D-Phe-c[Cys-Phe-D-Trp-Lys-Thr-Cys] was conjugated to Tb complex of (S)-[(HO2CCH2)2NCH2CH2]2NCH(CH2-4-C6H4OCH2CO2H)CO2H, prepared in three steps from (S)-[(PhCH2OC(O)CH2)2NCH2CH2]2NCH(CH2-4-C6H4OCH2CO2H)C(O)OCH2Ph, to give the title terbium complex. Similar complexes containing europium, gadolinium, or bismuth, with cyclic or straight chain peptides, and substituted 1,4,7,10-tetraazacyclododecane chelating portions, were also prepared Over two hundred peptide sequences were claimed as potential fragments of the title complexes.

IT **387389-22-2DP**, terbium complex **387389-30-2DP**, gadolinium complex

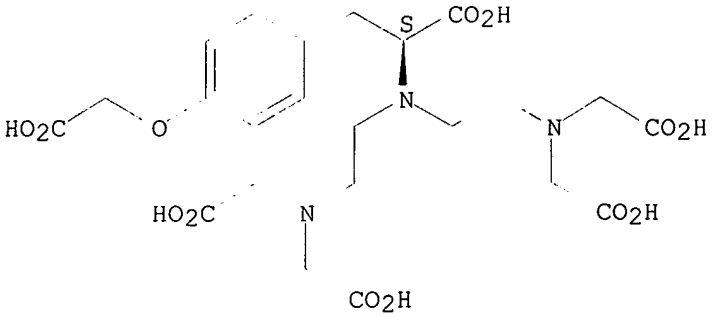
Searched by: Mary Hale 571-272-2507 REM 1D86

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of conjugates of peptides and lanthanide-chelates for use as **fluorescence** diagnostic materials in vivo or in vitro)

RN 387389-22-2 HCAPLUS

CN L-Tyrosine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-O-(carboxymethyl)-, disodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

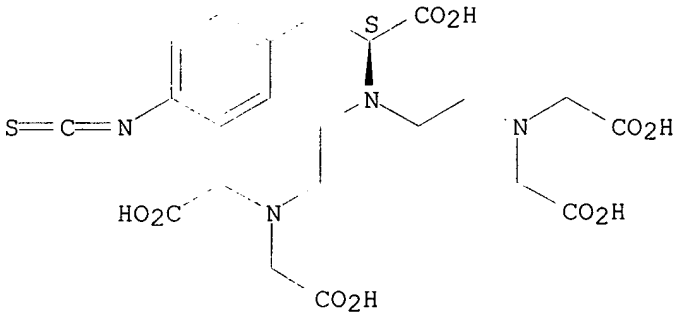


●2 Na

RN 387389-30-2 HCAPLUS

CN L-Phenylalanine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-4-isothiocyanato-, disodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



●2 Na

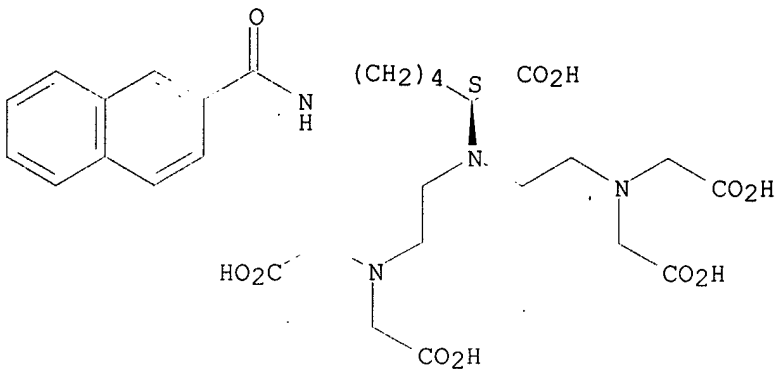
IT **387389-29-9DP**, terbium complex
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of conjugates of peptides and lanthanide-chelates for use as **fluorescence** diagnostic materials in vivo or in vitro)

RN 387389-29-9 HCAPLUS

CN L-Lysine, N2,N2-bis[2-[bis(carboxymethyl)amino]ethyl]-N6-(2-naphthalenylcarbonyl)-, disodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

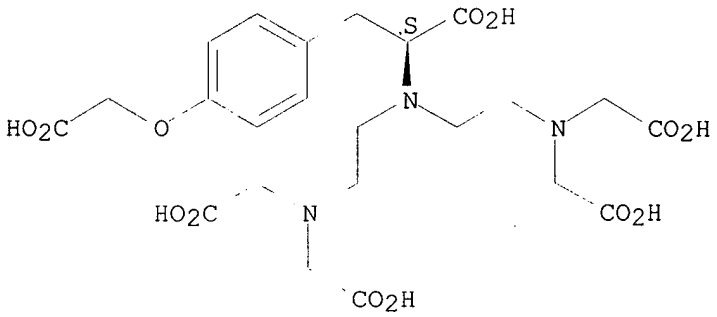
Searched by: Mary Hale 571-272-2507 REM 1D86



●2 Na

IT **387389-22-2DP**, europium complex
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of conjugates of peptides and lanthanide-chelates for use as **fluorescence** diagnostic materials in vivo or in vitro)
RN 387389-22-2 HCAPLUS
CN L-Tyrosine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-O-(carboxymethyl)-, disodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



●2 Na

L27 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN
2003:722135 Document No. 140:189698 Preparation of nano-sized fluoride-based upconversion **fluorescent** material. Yi, Guangshun; Sun, Baoquan; Chen, Depu; Zhou, Yuxiang; Cheng, Jing (Tsinghua Univ., Peop. Rep. China; Beijing Boao Biochip Co., Ltd.). Faming Zhuanli Shenqing Gongkai Shuomingshu CN 1376759 A 20021030, 10 pp. (Chinese). CODEN: CNXXEV. APPLICATION: CN 2002-116679 20020415.
AB The title **fluorescent** material is prepared by the following steps of (1) dissolving Y2O3, La2O3, Gd2O3, Yb2O3, Er2O3, Tm2O3 and Ho2O3 in HCl or HNO3, evaporating to remove HNO3 and HCl, adding water to obtain a solution; (2) adding amine acids (its salt) complexing agent; (3) adding water- soluble fluoride to obtain a precipitate; (4) separating, and drying; and (5) calcining at

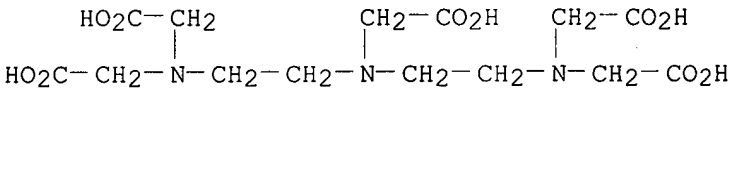
Searched by: Mary Hale 571-272-2507 REM 1D86

300-450° for 1-10 h. The molar ratio of La (Y or Gd) : Yb : Er (Tm or Ho) is 70-90:0-29:0.001-15. The complexing agent is selected from one of EDTA, diethylenetriamine pentaacetatic acid, hydroxyethylethylenediaminetriacetic acid, 1,2-diaminocyclohexanetetraacetic acid, glycol di-Et ether diamine tetraacetic acid, triethyltetraamine hexaacetic acid (or theirs sodium salt); and the fluoride from NaF, KF, NH4F and HF. The product has particle size of 37-166 nm, and uniform particle size distribution.

IT **140-01-2**, Sodium diethylenetriamine pentaacetate
RL: TEM (Technical or engineered material use); USES (Uses)
(preparation of nano-sized fluoride-based upconversion **fluorescent** material)

RN 140-01-2 HCAPLUS

CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt (8CI, 9CI) (CA INDEX NAME)



●5 Na

L27 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

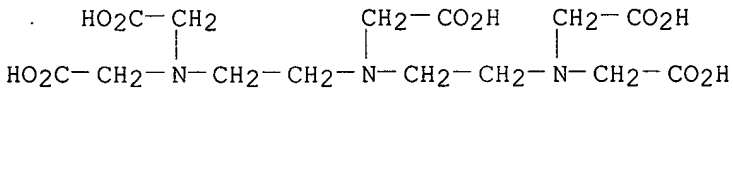
2001:643599 Document No. 135:166702 Process for preparing decabromodiphenyl ether and its whitening. Gu, Hao (Peop. Rep. China). Faming Zhuanli Shenqing Gongkai Shuomingshu CN 1279232 A 20010110, 5 pp. (Chinese). CODEN: CNXXEV. APPLICATION: CN 1999-114290 19990630.

AB Decabromodiphenyl ether is prepared by recrystg. di-Ph ether in solvent at 26-28° followed by brominating in the presence of AlCl3 as catalyst. The product is whitened with 0.2-10 g/L effective Cl-containing NaClO at F<50° and pH 2-10 with or without stabilizer for 0.5-48 h and modified with white **fluorescent** dye. The product may be whitened with 0.1-8 g/L H2O2 at 40-130° and pH 8-12 for 0.01-24 h. The stabilizer is Na silicate, Na pyrophosphate, Na triphosphate, EDTA-Na, Na diethylenetriaminepentraacetate, and/or Na aminotriacetate. The white **fluorescent** dye is stilbenes, styrenes, ethylenes, benzoxazoles, benzimidazoles, pyrazolines, naphthalenediamides, or coumarins.

IT **140-01-2**
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(process for preparing decabromodiphenyl ether and its whitening)

RN 140-01-2 HCAPLUS

CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt (8CI, 9CI) (CA INDEX NAME)



●5 Na

L27 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

Searched by: Mary Hale 571-272-2507 REM 1D86

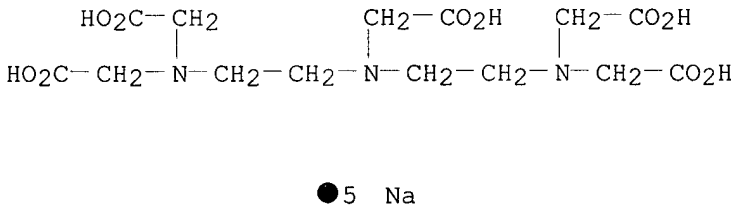
1995:757129 Document No. 123:217158 Determination of beryllium in aluminum metals with 2-hydroxy-1-naphthaldehyde and methylamine by flow injection fluorometry. Watanabe, Kunihiro; Ikai, Takayuki; Itagaki, Masayuki (Fac. Sci. Technol., Sci. Univ. Tokyo, Noda, 278, Japan). Bunseki Kagaku, 44(8), 633-9 (Japanese) 1995. CODEN: BNSKAK. ISSN: 0525-1931.

AB Fluorometric detns. of beryllium in aluminum with Schiff base by flow injection anal. have been investigated. The reactivity of aluminum, the matrix ion, with Schiff base decreased in the range of high pH. So the measurements were performed in a solution of pH 11. At this pH, the determination of beryllium with methylamine in presence of 2-hydroxy-1-naphthaldehyde is more sensitive than that with ethylenediamine in former works. Fluoride ion and triethylenetetramine-N,N,N',N",N'",N'"-hexaacetic acid hexasodium salt (TTHA) were used as masking agents for aluminum ions. Therefore, using the present method, the determination of beryllium in aluminum could be carried out without complicated pretreatments. The recommended conditions for the determination of beryllium in a sample are as follows: a triple channel FIA apparatus with one channel for the carrier stream (distilled water) and 2 channels for the reagent streams, one of which is 2.5 + 10-3 mol/L 2-hydroxy-1-naphthaldehyde 1, 4-dioxane solution and the other is 1.5 mol/L methylamine solution The flow rates of each stream were kept at 1.6, 0.2, and 0.2 mL/min, resp. The pH of waste was adjusted to 11.0. A sample solution, which contained beryllium, aluminum and fluoride ion or TTHA, was injected into a carrier stream and mixed with the reagent streams. The **fluorescence** intensity of the mixture was detected (λex = 365 nm, λem = 435 nm) through a flow cell (27 μL). The resulting detns. of beryllium in aluminum showed good agreement with the values obtained by ICP-AES. By this method, beryllium above 1.8 ppm in aluminum could be detected.

IT **140-01-2**, Diethylenetriaminepentaacetic acid pentasodium salt
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(masking agent; determination of Be in Al with hydroxynaphthaldehyde and methylamine by flow injection fluorometry)

RN 140-01-2 HCAPLUS

CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt (8CI, 9CI) (CA INDEX NAME)



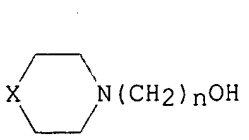
●5 Na

L27 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

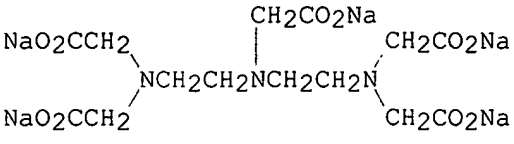
1993:459605 Document No. 119:59605 Color developing solution for silver halide color photographic material and photographic processing method using said solution. Emoto, Mayumi; Kuze, Satoru (Konishiroku Photo Ind, Japan). Jpn. Kokai Tokkyo Koho JP 05040333 A2 19930219 Heisei, 58 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-220883 19910805.

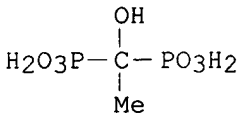
GI

Searched by: Mary Hale 571-272-2507 REM 1D86



I





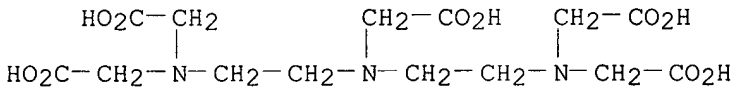
III

AB The title solution contains one or more compds. selected from R1R2NOH [R1, R2 = H, (substituted) alkyl], I, etc. For I, X = O, NR3; R3 = H, OH, (substituted) alkyl; n = 0 to 2. The title solution also contains a chelating agent. Compds. II and III are examples of said chelating agent. The title solution also contains a **fluorescent** brightener. The title method is highly efficient.

IT **140-01-2**
RL: USES (Uses)
(photog. color developing solution containing)

RN 140-01-2 HCAPLUS

CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt (8CI, 9CI) (CA INDEX NAME)



●5 Na

L27 ANSWER 8 OF 13 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

1991:485315 Document No.: PREV199192119075; BA92:119075. TOXICOLOGICAL STUDY OF DTPA AS A DRUG VI EFFECTS OF INTRAVENOUSLY INJECTED CALCIUM DTPA CALCIUM EDTA CBMIDA AND ORALLY ADMINISTERED ZINC DTPA TO BONE METABOLISM IN BEAGLE DOGS. FUKUDA S [Reprint author]; IIDA H; HSEIH YU Y; CHEN W. DIV COMPARATIVE RADIOTOXICOL, NATL INST RADIOLOGICAL SCIENCES, 9-1, ANAGAWA 4-CHOME, CHIBA 260, JPN. Hoken Butsuri, (1991) Vol. 26, No. 2, pp. 101-108.
CODEN: HOKBAQ. ISSN: 0367-6110. Language: ENGLISH.

AB Effects of four kinds of chelating agents, Ca-DTPA (calcium diethylenetriaminepentaacetic acid), Ca-EDTA (calcium ethylenediaminetetraacetic acid), CBMIDA [catechol-3,6-bis(methyleiminodiacetic acid)] and Zn-DTPA (zinc DTPA), on bone metabolism were examined in beagle dogs by bone histomorphometry and measurement of serum biochemical constituents related to bone metabolism. Ca-DTPA, Ca-EDTA or CBMIDA (150 μmol/kg) was injected intravenously to dogs for 1 month, respectively. Three doses (30, 150 and 300 μmol/kg) of Zn-DTPA were administered orally to dogs for 1 month, respectively. All dogs received twice tetracycline hydrochloride injections at an interval of 7 days before the beginning of administration of chelating agents and also twice calcein injections at the same time schedule prior to sacrifices for analyzing bone dynamics. Bone samples were obtained from ilium and undecalcified bone sections were made. Bone histomorphometry of cancellous bone area of ilium was performed using an image analyzer. Bone volume and mean trabecular thickness did not change

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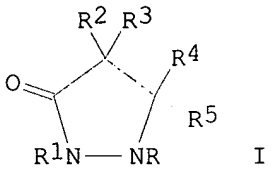
in any of the groups. Osteoid volume in the CBMIDA group increased ($p < 0.05$). Osteoid volume and mean osteoid thickness in the 150 μmol/kg of Zn-DTPA group decreased ($p < 0.05$ and $p < 0.01$). Mineral apposition rate and bone formation rate did not change in any groups except the CBMIDA and 150 μmol/kg of Zn-DPTA groups, in which **fluorescent** bone labeling was absent or obscure, revealing inhibition of bone mineralization. Serum total calcium levels did not change in any of the groups. Serum phosphorous level decreased significantly in the 30 μmol/kg dose of Zn-DTPA group ($p < 0.05$). Parathyroid hormone level increased in the 30 μmol/kg dose of Zn-DTPA ($p < 0.05$), while it decreased in the 150 μmol/kg dose of Zn-DTPA group ($p < 0.05$). The results suggest that the protracted therapy using the above four kinds of chelating agents may incur damages of bone such as decrease of bone volume and inhibition of mineralization.

L27 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN
1986:59347 Document No. 104:59347 Processing of silver halide color photographic photosensitive materials. Ishikawa, Masao; Koboshi, Shigeharu (Konishiroku Photo Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 60162254 A2 19850824 Showa, 20 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1984-17953 19840202.

GI



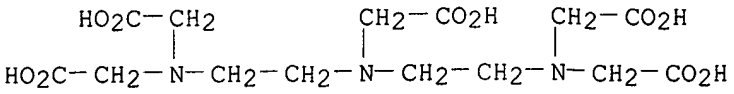
I

AB Imagewise exposed Ag halide photog. color photosensitive materials containing a compound of the formula I (R=aryl; R1=H, Ac; R2-R5=H, alkyl, aryl) are treated in a color developer which contains ≥1 compound selected from organic phosphonic acids, organic carboxylic acids, and polyhydroxy compds. and does not contain NH_2OH or its salt, and subsequently bleached (or bleached-fixed). The process gives color images with very few color blemishes. Thus, a color photog. paper having a support, a gelatin subbing layer containing I (R = Ph; R1 = R4 = R5 = H; R2 = Me; R3 = CH_2OH), a blue-sensitive emulsion layer, an interlayer, a green-sensitive emulsion layer, and a protective layer was sensitometrically exposed, then color-developed in a developer containing $PhCH_2OH$, $HOCH_2CH_2OH$, K_2SO_3, KBr, NaCl, 3-Me-4-$NH_2C_6H_4$(Et)$CH_2CH_2NHSO_2Me.H_2SO_4$, KOH, a **fluorescent** whitener and di-Na 1,2-dihydroxybenzene-3,5-disulfonate, and bleach-fixed in a solution containing EDTA Fe(II)-Na salt to give a color photograph with very few blemishes and high Dmax.

IT **7578-43-0**
RL: USES (Uses)
(metal sequestering agent, photog. color-developer solution containing)

RN 7578-43-0 HCAPLUS
CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, sodium salt (8CI, 9CI) (CA INDEX NAME)

Searched by: Mary Hale 571-272-2507 REM 1D86



●x Na

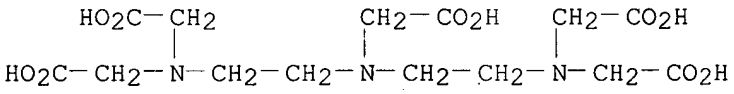
L27 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN
1986:170066 Document No. 104:170066 Aqueous transfer dye composition. Fraenkel, Juergen; Pfaff, Wolfgang (Huber, Michael, Muenchen G.m.b.H., Fed. Rep. Ger.). Ger. DE 3415304 C1 19851024, 9 pp. (German). CODEN: GWXXAW. APPLICATION: DE 1984-3415304 19840424.

AB The viscosity of aqueous transfer dye prepns. comprising H2O, water-insol. dye(s), hydrotropic agent(s), emulsifier(s), and, optionally, water-insol. **fluorescent** brightener(s), thickener(s), and solvent(s) is reduced by the presence of a complexing agent. The compns. are used to prepare transfer printing ink. Thus, adding urea 110, tetra-Na EDTA (I) 18, and then Disperse Violet 1 380 parts to a solution of diethylene glycol 190, preservative 2, and polyglycol monoester 70 in H2O 188 parts, milling to particle size .apprx.3 μ, and diluting with H2O to 1000 parts gave a 38% dye dispersion with run-out time 410 s in the 4 mm run-out cup test (DIN 53 211), good storage stability, and good flow properties. In the absence of I the dispersion would not flow and a run-out time could not be measured.

IT **140-01-2**
RL: USES (Uses)
(flow improvement by, of aqueous disperse dye compns. for transfer printing)

RN 140-01-2 HCAPLUS

CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt (8CI, 9CI) (CA INDEX NAME)



●5 Na

L27 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN
1984:493253 Document No. 101:93253 Stable preparation of an agent for the treatment of textile substrates. Becker, Carl; Heizler, Fritz (Ciba-Geigy A.-G. , Switz.). Eur. Pat. Appl. EP 103539 A1 19840321, 37 pp. DESIGNATED STATES: R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE. (German). CODEN: EPXXDW. APPLICATION: EP 1983-810349 19830805. PRIORITY: CH 1982-4811 19820811; CH 1983-2839 19830525.

AB Title compns. comprise an organic solvent in which a carrier for treating compds. is dissolved in and in which the treating compound in a water-soluble acid is dispersed or dissolved. It is especially useful for treatment of textiles with **fluorescent** whiteners in household washing machines. Thus, a preparation was formulated containing aliphatic hydrocarbon 38.2, diethyl succinate [123-25-1] 30, monobehenyl phthalate [84283-04-5] 8, α-Me styrene-vinyltoluene copolymer [9017-27-0] 10, nonionic

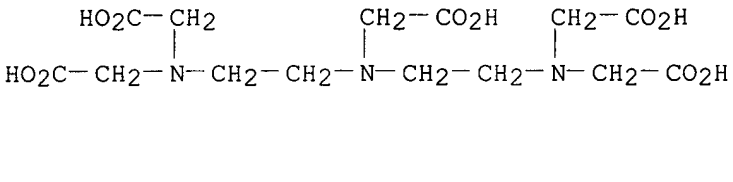
Searched by: Mary Hale 571-272-2507 REM 1D86

surfactant 0.5, acetic acid [64-19-7] 8, **fluorescent** whitener 0.3, and tinting dye 5% having a pH of 4-5. A washed polyester fabric was treated with the composition and dried to give a clear white fabric having slightly stiff handle an exhibiting intense blue-white color under UV light.

IT **7578-43-0**
RL: USES (Uses)
(textile treatment compns. containing **fluorescent** brighteners and)

RN 7578-43-0 HCAPLUS

CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, sodium salt (8CI, 9CI) (CA INDEX NAME)



● x Na

L27 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

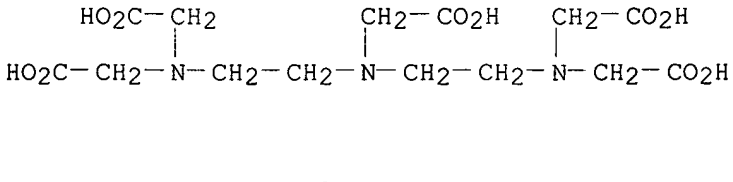
1984:165373 Document No. 100:165373 Silver halide color photographic developers. (Konishiroku Photo Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 57207251 A2 19821218 Showa, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-93394 19810616.

AB Ag halide color photog. developer solns. contain ≥1 metal ion selected from Cd, Dy, Er, Eu, Cd, Ho, In, Ca, Nd, Sm, Tb, Yb, and Y ions. The addition of the metal ions prevents the degradation of the developers caused by accidental mixing with bleaching solns. containing an organic Fe chelate compound Thus, CdSO4 and Na tripolyphosphate were added to a color-developer solution containing PhCH2OH, diethylene glycol, a **fluorescent** brightener, hydroxylamine sulfate, 3-methyl-4-amino-N-ethyl-N-(β-methanesulforamidoethyl)aniline sulfate, K2CO3, K2SO3, KBr, KCl, and KOH. The addition of a bleach-fix solution containing EDTA-Fe salt to the developer resulted in very little decomposition of the hydroxylamine salt.

IT **140-01-2**
RL: USES (Uses)
(color photog. developer solution stabilizer compns. containing)

RN 140-01-2 HCAPLUS

CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt (8CI, 9CI) (CA INDEX NAME)



● 5 Na

L27 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

Searched by: Mary Hale 571-272-2507 REM 1D86

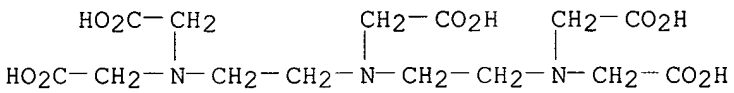
1969:38858 Document No. 70:38858 Textile finish. Bann, Robert F.; Moran, William J.; Roth, Philip B. (American Cyanamid Co.). S. African ZA 6706184 19680221, 25 pp. (English). CODEN: SFXXAB. PRIORITY: US 19670405 - 19671003 19671003.

AB An aqueous composition containing 1,3-dimethylol-4,5-dihydroxy-2-imidazolidine (I), Zn(NO3)2.6H2O (II) catalyst, and a sequestering agent was applied to dyed or undyed cellulosic textiles to give a nondiscoloring durable press finish. Thus, 8 aqueous pad baths were prepared each containing I 11.2, II 1.25, a nonionic surface active agent 0.25, and C.I. **Fluorescent** Brightening Agent 25 0.5%. The sequestering agents used were 0.1% NaOAc and 0.4% of ethyl-enediaminetetraacetic acid tetra-Na salt (III), gluconic acid, nitrilotriacetic acid, diethylenetriaminepentaacetic acid penta-Na salt, N,N-bis(hydroxyethyl)glycine Na salt, and (hydroxyethyl)ethylenediaminetriacetic acid tri-Na salt. The pH of the baths was adjusted to 4.7 and a 13:7 polyester-cotton fabric was padded to 70% wet pick-up. The fabric containing 7.9% I was dried for 1 min. at 225°F., steamed 5 sec., pressed 5 sec. at 350°F., and heated 8 min. at 320°F. Discoloration was severe when no sequestering agent was used and in the presence of NaOAc, but negligible in all other cases. The fabrics were laundered 5 times at 130-40°F., rinsed at 110-20°F. and tumbled dry; crease retention was excellent in all cases. Similar expts. on cotton broadcloth showed that wrinkle recovery was not affected by the treatment. Further tests showed that increasing the amount of III in the bath caused an increase in tensile strength in the final fabric but that changing the proportions of the sequestering agent and catalyst did not significantly affect the results of the treatment.

IT **140-01-2**
RL: USES (Uses)
(in durable-press wash-wear finishing of textiles with imidazolidinone dimethylol derivative)

RN 140-01-2 HCAPLUS

CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt (8CI, 9CI) (CA INDEX NAME)



●5 Na

=> fil reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	70.77	889.35

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-8.32	-8.32

FILE 'REGISTRY' ENTERED AT 09:35:38 ON 22 JUN 2004

Searched by: Mary Hale 571-272-2507 REM 1D86

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 21 JUN 2004 HIGHEST RN 697224-75-2
DICTIONARY FILE UPDATES: 21 JUN 2004 HIGHEST RN 697224-75-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

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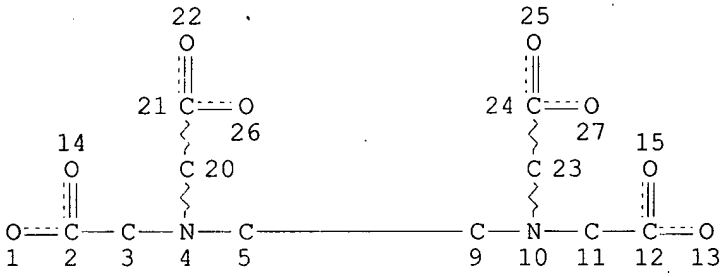

claim 2

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE
L31 93 SEA FILE=REGISTRY SSS FUL L28 AND L20

100.0% PROCESSED 228 ITERATIONS 93 ANSWERS
SEARCH TIME: 00.00.01

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	157.52	1046.87

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-8.32

FILE 'MEDLINE' ENTERED AT 09:39:03 ON 22 JUN 2004

FILE 'HCAPLUS' ENTERED AT 09:39:03 ON 22 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

Searched by: Mary Hale 571-272-2507 REM 1D86

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE 'BIOSIS' ENTERED AT 09:39:03 ON 22 JUN 2004

FILE 'EMBASE' ENTERED AT 09:39:03 ON 22 JUN 2004

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L32 0 FILE MEDLINE
L33 8 FILE HCAPLUS
L34 13 FILE BIOSIS
L35 13 FILE EMBASE

TOTAL FOR ALL FILES
L36 34 L31 AND (FLUOROPHORE OR FLUORESCEN? OR ANTICHELAT? OR ANTI CHELAT?)

=> dup rem l36
PROCESSING COMPLETED FOR L36
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L37 ANSWER 1 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
2003:390490 Document No.: PREV200300390490. Evidence for chelatable zinc in the extracellular space of the hippocampus, but little evidence for synaptic release of Zn. Kay, Alan R. [Reprint Author]. Biological Sciences, University of Iowa, 138 Biology Building, Iowa City, IA, 52242, USA. alan-kay@uiowa.edu. Journal of Neuroscience, (July 30 2003) Vol. 23, No. 17, pp. 6847-6855. print.
ISSN: 0270-6474 (ISSN print). Language: English.
AB Zinc colocalizes with glutamate in the synaptic vesicles of certain glutamatergic vesicles in the mammalian brain. Here, I introduce a method for detecting Zn in the extracellular space of brain slices and another method for detecting the passage of Zn out of the slice. In both cases, the fluorimetric Zn probe FluoZin-3 is used in conjunction with a slow Zn chelator, Ca-EDTA, to reduce background **fluorescence**. In addition, a new Zn chelator, ethylenediiminodi-2-pentanedioic acid, with little affinity for Ca or Mg is introduced. These tools are then used to show that little Zn (apprx2 nM) is released during the course of synaptic transmission into the extracellular space. However, when hippocampal slices are subjected to a high potassium stimulus (50 mM) combined with an increase in osmolarity, Zn is externalized in the Timm's-stained areas(apprx6 nM). This stimulus also leads to even greater Zn elevations in area CA1 that is only weakly stained by the Timm's method. Nevertheless, even under these conditions, little if any Zn makes its way out of the slices. I present evidence for a layer of Zn in the extracellular space that maps onto the Timm's stained region of the hippocampus. This Zn veneer appears to be loosely associated with molecules in the extracellular space and may be the raison d'etre for vesicular Zn.

L37 ANSWER 2 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
2003:463959 Document No.: PREV200300463959. Co-induction of p75NTR and the associated death executor NADE in degenerating hippocampal neurons after kainate-induced seizures in the rat. Yi, Jung-Sun; Lee, Soon-Keum; Sato, Taka-aki; Koh, Jae-Young [Reprint Author]. National Creative Research Initiative Center for the Study of CNS Zinc and Department of Neurology, College of Medicine, University of Ulsan, 388-1 Poongnap-Dong Songpa-Gu, Seoul, 138-736, South Korea. jkko@www.amc.seoul.kr. Neuroscience Letters,

Searched by: Mary Hale 571-272-2507 REM 1D86

(August 21 2003) Vol. 347, No. 2, pp. 126-130. print.
ISSN: 0304-3940 (ISSN print). Language: English.

AB Zinc induces in cultured cortical neurons both p75NTR and p75NTR-associated death executor (NADE), which together contribute to caspase-dependent neuronal apoptosis. Since zinc neurotoxicity may contribute to neuronal death following seizures, we examined whether p75NTR and NADE are co-induced also in rat hippocampal neurons degenerating after seizures. Staining of brain sections with a zinc-specific **fluorescent** dye (N-(6-methoxy-8-quinolyl)-p-carboxybenzoylsulphonamide) and acid fuchsin revealed zinc accumulation in degenerating neuronal cell bodies in CA1 and CA3 of hippocampus 24 h after kainate injection. Both anti-p75NTR and anti-NADE immunoreactivities appeared in zinc-accumulating/degenerating neurons in both areas. Intraventricular injection of CaEDTA, without altering the severity or time course of kainate-induced seizures, markedly attenuated the induction of p75NTR/NADE in hippocampus, which correlated with the decrease of caspase-3 activation and zinc accumulation/cell death. The present study has demonstrated that p75NTR and NADE are co-induced in neurons degenerating after kainate-induced seizures in rats, likely in a zinc-dependent manner.

L37 ANSWER 3 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
2003:97446 Document No.: PREV200300097446. Depletion of intracellular zinc from neurons by use of an extracellular chelator in vivo and in vitro. Frederickson, Christopher J. [Reprint Author]; Suh, Sang W.; Koh, Jae-Young; Cha, Yoo K.; Thompson, Richard B.; LaBuda, Christopher J.; Balaji, Rengarajan V.; Cuajungco, Math P.. NeuroBioTex, Inc., 101 Christopher Columbus Blvd., Galveston, TX, 77550, USA. chris@neurobiotex.com. Journal of Histochemistry & Cytochemistry, (December 2002) Vol. 50, No. 12, pp. 1659-1662. print.
ISSN: 0022-1554 (ISSN print). Language: English.

AB The membrane-impermeable chelator CaEDTA was introduced extracellularly among neurons in vivo and in vitro for the purpose of chelating extracellular Zn2+. Unexpectedly, this treatment caused histochemically reactive Zn2+ in intracellular compartments to drop rapidly. The same general result was seen with intravesicular Zn2+, which fell after CaEDTA infusion into the lateral ventricle of the brain, with perikaryal Zn2+ in Purkinje neurons (in vivo) and with cortical neurons (in vitro). These findings suggest either that the volume of zinc ion efflux and reuptake is higher than previously suspected or that EDTA can enter cells and vesicles. Caution is therefore warranted in attempting to manipulate extracellular or intracellular Zn2+ selectively.

L37 ANSWER 4 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
2003:573592 Document No. 140:179435 Approach to the relationship between the changes of the content of free zinc in hippocampus and ischemic neuronal damage. Zhou, Zhujuan; Zheng, Jian; He, Ying; Zhao, Shifu (Xin Qiao Hospital, The Third Military Medical University, Chungking, 400037, Peop. Rep. China). Zhongguo Yingyong Shenglixue Zazhi, 18(3), 222-225 (Chinese) 2002. CODEN: ZYSZE2. ISSN: 1000-6834. Publisher: Zhongguo Yingyong Shenglixue Zazhi Bianjibu.

AB The relationship between the change of free zinc and the ischemic neuronal damage in hippocampus after forebrain ischemia/reperfusion was studied. The models of forebrain ischemia/reperfusion were established in rats. The contents of free Zn2+ were measured by TSQ **fluorescence** method. The Zn2+ chelator (CaEDTA) was injected into lateral ventricles in order to evaluate the effect of free Zn2+ on ischemic neuronal damage. Zn2+ **fluorescence** in the hilus of dentate gyrus, CA3 region, and the stratum radiatum and stratum oriens of CA1 decreased slightly at forty-eight hours after reperfusion. From seventy-two hours to ninety-six hour after reperfusion, the decreased **fluorescence** gradually returned to the normal level, but some **fluorescence** dots were

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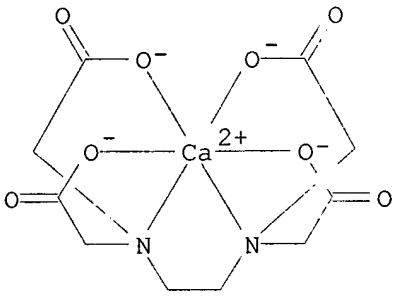
found in pyramidal neurons of CA1 and the hilus of dentate gyrus. Seven days after reperfusion, all the changes of the **fluorescence** almost recovered. The cell membrane-impermeable Zn2+ chelator CaEDTA could reduce the intracellular concentration of free Zn2+ and reduced neuronal damage after forebrain ischemia/reperfusion. The synaptic vesicle Zn2+ released, and then translocated into postsynaptic neurons after forebrain ischemia/reperfusion and played a role in ischemic neuronal damage. The cell membrane-impermeable chelator CaEDTA could provide neuroprotection.

IT **62-33-9**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cell membrane-impermeable Zn2+ chelator CaEDTA could reduce the intracellular concentration of free Zn2+ and reduced neuronal damage after forebrain ischemia/reperfusion)

RN 62-33-9 HCAPLUS

CN Calciate(2-), [[N,N'-1,2-ethanediylbis[N-[(carboxy-κO)methyl]glycinato-κN,κO]](4-)]-, disodium, (OC-6-21)-(9CI) (CA INDEX NAME)



● 2 Na^+

L37 ANSWER 5 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
2003:304254 Document No.: PREV200300304254. POSTTETANIC DEPRESSIONS OF HIPPOCAMPAL MOSSY FIBER CALCIUM AND ZINC SIGNALS ARE BLOCKED BY ZINC CHELATORS. Quinta-Ferreira, M. E. [Reprint Author]; Matias, C.. Department of Physics, University of Coimbra, Coimbra, Portugal. Society for Neuroscience Abstract Viewer and Itinerary Planner, (2002) Vol. 2002, pp. Abstract No. 443.18. http://sfn.scholarone.com. cd-rom.
Meeting Info.: 32nd Annual Meeting of the Society for Neuroscience. Orlando, Florida, USA. November 02-07, 2002. Society for Neuroscience.
Language: English.

AB The hippocampal mossy fiber synapses from CA3 area contain high levels of vesicular zinc that is released in a calcium dependent way and may interact with multiple channels and receptors. At these synapses the application of strong tetanic stimulation evokes posttetanic depressions of mossy fiber calcium and zinc signals and of the corresponding field potentials that might be caused by tetanically-released zinc. We tested this hypothesis studying the effect of the permeant zinc chelator N,N,N',N-tetrakis(2-pyridylmethyl)ethylenediamine (TPEN) and of the impermeant chelator calcium-ethylenediaminetetraacetic acid (Ca-EDTA) on the posttetanic calcium and zinc depressions, respectively. The experiments were performed in rat hippocampal slices in the synaptic system mossy fibers-CA3 pyramidal cells, combining the use of the calcium indicator Fura-2 or the permeant **fluorescent** zinc indicator N-(6-methoxy-8-quinolyl)-para-toluenesulfonamide (TSQ) with measurements of extracellular field potentials. Stimulation consisted of single

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stimuli or multiple tetani (each 100 Hz, 1 s).In the presence of TPEN (20 muM), which forms complexes with vesicular zinc, the posttetanic depressions of the presynaptic calcium signals and of the field potentials were abolished. The presynaptic zinc signals were also blocked by TPEN, being their depressions prevented by the extracellular chelator Ca-EDTA (2.5 mM). These findings support the idea that, at the mossy fiber synapses, endogenously released zinc inhibits presynaptic calcium mechanisms, leading to a reduction in zinc and glutamate release.

L37 ANSWER 6 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
2003:120221 Document No.: PREV200300120221. Zinc Chelation Reduces Zinc Accumulation after Traumatic Brain Injury and Hemorrhagic Hypotension. Prough, Donald S. [Reprint Author]; Suh, Sang W. [Reprint Author]; Frederickson, Christopher J. [Reprint Author]; Li, Zheng-Yin [Reprint Author]; DeWitt, Douglas S. [Reprint Author]. Department of Anesthesiology and Biomedical Engineering Center, The University of Texas Medical Branch, Galveston, TX, USA. Anesthesiology Abstracts of Scientific Papers Annual Meeting, (2002) No. 2002, pp. Abstract No. A-275. http://www.asa-abstracts.com. cd-rom.
Meeting Info.: 2002 Annual Meeting of the American Society of Anesthesiologists. Orlando, FL, USA. October 12-16, 2002. American Society of Anesthesiologists Inc.
Language: English.

AB Introduction: Hemorrhagic hypotension markedly worsens outcome after severe traumatic brain injury (TBI) in humans, presumably by causing cerebral ischemia.1 Neurotoxic accumulation of ionic zinc (Zn2+), which contributes to neuronal injury after experimental cerebral ischemia2 and weight-drop TBI,3can be demonstrated by postsynaptic neuronal staining with N-(6-methoxy-8-quinolyl)-para-toluenesulfonamide (TSQ), a **fluorescent** dye with a high specificity for Zn2+.4 We hypothesized that chelation of extracellular Zn2+ would reduce post-synaptic Zn2+ accumulation after TBI and hemorrhagic hypotension. Methods: Adult, male, Sprague-Dawley rats were anesthetized (1.5% isoflurane) and prepared for fluid percussion TBI as described elsewhere.5 Rats were then treated with intracerebroventricular (ICV) injections of saline (n=2) or a Zn2+ chelator (apo-carbonic anhydrase, 200 mM, or CaEDTA, 100 mM; n=4) and subjected to TBI followed by hemorrhage (MAP = 60 mmHg for 45 min) and reinfusion of shed blood. Six hours after TBI, rats were reanesthetized and decapitated. The brains were frozen and 20-mm sections were stained with TSQ. TSQ-positive neurons in the hippocampus (CA3, hilus), cerebral cortex, and thalamus were counted using a **fluorescence** microscope. Results: TBI and hemorrhage significantly increased Zn2+ accumulation in all brain regions studied. ICV injections of Zn2+ chelators significantly reduced the numbers of TSQ-positive neurons in CA3, the cerebral cortex (Figure), and the thalamus. Saline injections had no effect. Conclusions: These results, indicating that Zn2+ chelators significantly reduce Zn2+ accumulation after TBI and hemorrhage, suggest that Zn2+ chelators may reduce neuronal injury or death after TBI or TBI followed by hemorrhagic hypotension. .

L37 ANSWER 7 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
2002:2681 Document No.: PREV200200002681. Translocation of synaptically released zinc (Zn2+) and its role in synaptic plasticity. Li, Y. [Reprint author]; Hough, C. J.; Suh, S. W.; Frederickson, C. J.; Sarvey, J. M. [Reprint author]. Pharmacology, USUHS, Bethesda, MD, USA. Society for Neuroscience Abstracts, (2001) Vol. 27, No. 2, pp. 2124. print.
Meeting Info.: 31st Annual Meeting of the Society for Neuroscience. San Diego, California, USA. November 10-15, 2001.
ISSN: 0190-5295. Language: English.

AB The CNS contains an abundance of chelatable Zn2+ in vesicles of glutamatergic terminals. These vesicles are particularly numerous in hippocampal mossy fiber-CA3 synapses. Our direct observation, using

fluorescence imaging in rat hippocampal slices, indicated that brief trains of electrical stimulation of mossy fibers caused immediate Zn2+ release that was dependent on stimulation frequency (1-200 Hz), extracellular Ca2+, and sodium action potentials. These results suggest that Zn2+ is released like a neurotransmitter, but, unlike a conventional transmitter, also enters postsynaptic neurons, where it has manifold physiological functions. In the study of synaptically released Zn2+ in synaptic transmission, we observed that the rapid removal of released Zn2+ with the extracellular Zn2+ chelator, CaEDTA, blocked induction of NMDA receptor-independent mossy fiber LTP by high-frequency electrical stimulation (HFS). Mimicking Zn2+ release by bath-application of Zn2+ (50-100 mM) without HFS induced along-lasting potentiation of synaptic transmission by acting at an intracellular site. Besides its crucial roles for gene expression and transcription, other laboratories have reported that Zn2+ activate a number of protein kinases such as protein kinase C, CaMKII and MAP kinase which are associated with enhancement of synaptic transmission. We also observed that Zn2+ modulated the intracellular Ca2+ transient responding to membrane depolarization. Therefore, our results introduce the idea that released Zn2+ acts as a presynaptically released 2nd messenger or trans-synaptic factor, which modulates intracellular signaling pathways and synaptic plasticity.

L37 ANSWER 8 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
2001:487201 Document No.: PREV200100487201. Translocation of zinc from axonal boutons to CA1 apical dendrites after stimulation of zinc-containing (but not zinc free) synaptic inputs. Suh, S. W. [Reprint author]; Zeng, Y. [Reprint author]; Salvey, J.; Li, Y.; Hough, C.; Thompson, R. B.; Frederickson, C. J. [Reprint author]. UTMB, Galveston, TX, USA. Society for Neuroscience Abstracts, (2001) Vol. 27, No. 1, pp. 401. print. Meeting Info.: 31st Annual Meeting of the Society for Neuroscience. San Diego, California, USA. November 10-15, 2001.
ISSN: 0190-5295. Language: English.

AB We showed previously that brief electrical stimulation induced translocation of zinc from presynaptic vesicles into the cytosol of postsynaptic neurons. In the present work we have extended those findings in two ways: (i) the translocation occurs into apical dendrites more vigorously than at the somata, and (ii) there is apparent translocation into dendrites when a zinc-containing synaptic input is stimulated but not when a zinc-free input to the same dendrite is stimulated. Acutely-prepared hippocampal slices were preloaded in a submerged-slice chamber with Newport Green. After washout, an oil-immersion lens (60X Olympus, na 1.4) was focused a single apical dendrite of CA1. After digital capture of the image (SPOT II), a 5 sec burst of stimulation (100 Hz, 500 uA, 0.1 msec, monopolar) was delivered to either the (zinc-containing) adjacent Schaffer-collateral inputs or to the slightly supra adjacent (zinc-free) inputs of the direct temporo-ammonic inputs to the CA1 dendrites. Stimulation of the Schaffer collaterals caused a rise in the intradendritic zinc **fluorescence** that was blocked by TTX, low-Ca medium, or the extracellular zinc chelator CaEDTA (5 mM), and was of larger amplitude than similar rises in the zinc **fluorescence** seen in the soma. Stimulation of the temporo-ammonic pathway caused no significant rise in the zinc **fluorescence**. We conclude that synaptically released zinc tanslocates into postsynaptic neurons through apical dendrites during physiological synaptic activity.

L37 ANSWER 9 OF 30 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
2001252793 EMBASE Evolution of the management and prevention of childhood lead poisoning: Dependence of advances in public health on technological advances in the determination of lead and related biochemical indicators of its toxicity. Chisolm J.J. Jr.; Kestenberg V.. J.J. Chisolm Jr., Kennedy Krieger Institue, 707 North Broadway, Baltimore, MD 21205, United

Searched by: Mary Hale 571-272-2507 REM 1D86

States. Environmental Research 86/2 (111-121) 2001.
Refs: 59.
ISSN: 0013-9351. CODEN: ENVRAL. Pub. Country: United States. Language: English. Summary Language: English.

AB We have seen that in the pre-dithizone era, the diagnosis in children depended almost entirely on the recognition of symptomatic cases. With the advent of dithizone in the 1930s encephalopatic, mildly symptomatic, and asymptomatic cases could be recognized and documented with blood lead values. During the same years it became evident that basophilic stippling of the circulating erythrocytes and Burton's line on the gum were virtually useless in the diagnosis of lead poisoning in children. Also increased density at the ends of the growing long bones was identified as the feature of excess lead storage. The dithizone procedure was too time consuming for screening large numbers of children. During this era the urinary UCP test and ALAU tests was used for screening symptomatic children in hospitals. It was of great benefit in diagnosis and management of suspected cases of lead poisoning. It was during this era that the chelating agents CaNa(2)EDTA and BAL were developed. This permitted the public health approach to the management of childhood lead poisoning as previously described (Williams et al., 1952), which included among other things the measurement of lead in paint samples for identification of lead hazards in housing. This too was greatly improved later on, with the development of the X-ray **fluorescence** lead analyzer, with which a large number of samples could be processed in a few hours. That was not the case with previous techniques. Today the laboratory capacity for screening with micro blood lead measurements is more than adequate. On the other hand, public health procedures have generally not been able to develop programs in which more than one-half to two-thirds of the children at high risk are reached (US GAO Report, 1999). In particular in case management exerting parents to prevent their children from eating lead in the home has proven to be a complete failure as a means of reducing blood lead concentrations (Schucker et al., 1965; Rhoads et al., 1999).

L37 ANSWER 10 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
2001:553953 Document No. 136:323259 Study on relationship between expression of metallothionein-III mRNA and free zinc contents. Zhu, Zhujuan; Zheng, Jian; He, Ying; Zhao, Shifu (Department of Neurology, Xinqiao Hospital, Third Military Medical University, Chungking, 400037, Peop. Rep. China). Zhonghua Shenjingke Zazhi, 34(2), 107-110 (Chinese) 2001. CODEN: ZSZAFN. ISSN: 1006-7876. Publisher: Zhonghua Yixuehui Zazhishe.

AB The induction mechanism of MT-III mRNA in the brain after cerebral ischemia was investigated. The forebrain ischemia reperfusion model was established in rats. The changes of the expression of MT-III mRNA in hippocampus after forebrain ischemia reperfusion were observed by in situ hybridization methods. The changes of free Zn2+ in hippocampus after forebrain ischemia reperfusion was examined using a Zn2+ specific **fluorescent** probe (TSQ). The Zn2+ chelator (Ca-EDTA) was injected into the lateral ventricles for determining influences of Zn2+ on the MT-III mRNA expression and the neuronal damage after forebrain ischemia/reperfusion. (1) The expression of MT-III mRNA in hippocampus increased gradually after cerebral ischemia and reached the peak in 96 h after reperfusion. Seven days after reperfusion the expression of MT-III mRNA was reduced to the normal level. (2) Zn2+ **fluorescence** in the hilus of dentate gyrus, CA3 region and the stratum radiatum and stratum oriens of CA1 decreased slightly at 48 h after reperfusion. From 72 to 96 h after reperfusion, the **fluorescence** returned to normal, but some new **fluorescent** dots appeared in pyramidal neurons of CA1 and the hilus of dentate gyrus increased gradually. Seven days after reperfusion, the **fluorescence** returned to normal. (3) The cell membrane-impermeable Zn2+ chelator could reduce the intracellular concentration of free Zn2+ and the expression of MT-III mRNA. Thus, the expression of MT-III mRNA can be induced by the increase in the

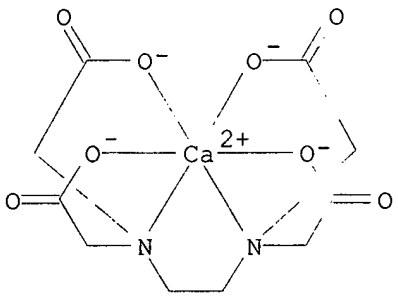
Searched by: Mary Hale 571-272-2507 REM 1D86

concentration of intracellular free Zn2+ after forebrain ischemia/reperfusion.

IT **62-33-9**, Calcium EDTA
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effect; relationship between expression of metallothionein-III mRNA and free zinc content in brain after cerebral ischemia)

RN 62-33-9 HCAPLUS

CN Calciate(2-), [[N,N'-1,2-ethanediylbis[N-[(carboxy-κO)methyl]glycinato-κN,κO]](4-)]-, disodium, (OC-6-21)-(9CI) (CA INDEX NAME)



● 2 Na^+

L37 ANSWER 11 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

2001:686811 Document No. 137:30000 Imaging synaptic zinc release in living nervous tissue. Varea, E.; Ponsoda, X.; Molowny, A.; Danscher, G.; Lopez-Garcia, C. (Neurobiology, Cell Biology Department, University of Valencia, Burjassot, 46100, Spain). Journal of Neuroscience Methods, 110(1,2), 57-63 (English) 2001. CODEN: JNMEDT. ISSN: 0165-0270. Publisher: Elsevier Science B.V..

AB Zinc enriched neurons have a pool of synaptic vesicles which contain free or loosely-bound zinc ions. The movement of the vesicular zinc ions into the synaptic clefts has been previously studied by microdialysis, **fluorescence** postmortem staining for zinc and radioactive zinc isotope. In this study the zinc **fluorescence** probe N-6-metoxy-p-toluensulfonamide quinoline (TSQ) has been applied as a tracer of synaptic release of zinc ions. This fluorochrome permeates cell membranes and when exposed to living brain slices gives rise to a staining pattern similar to that seen with autometallog. In the living brain slices, **fluorescence** emission persists after exposure to calcium saturated ethylen diamino-tetra-acetic acid (Ca-EDTA) because this chelator does not penetrate cell membranes, while sodium diethyldithiocarbamate (DEDTC), that does penetrate membranes, partially suppressed the **fluorescence** emission. Stimulation of slices bathed in the non-permeant chelator Ca-EDTA with 50 mM potassium chloride leads to a rapid and complete disappearance of **fluorescence**. In the absence of Ca-EDTA, however, potassium stimulation induces a sudden transitory increase in **fluorescence**. This increase is caused by a translocation of the fluorochrome (TSQ) zinc mols. from the weakly acid interior of the synaptic vesicles to the neutral extracellular space, whereby the **fluorescence** emission of the mols. is enhanced sufficiently to be recorded by a high sensitivity TV camera.

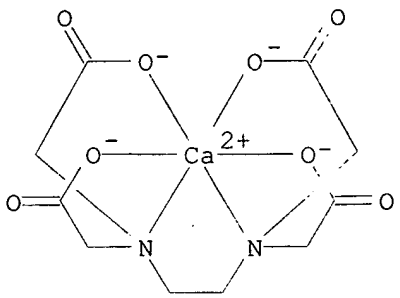
IT **62-33-9**
RL: ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)

Searched by: Mary Hale 571-272-2507 REM 1D86

(imaging synaptic zinc release in living nervous tissue)

RN 62-33-9 HCAPLUS

CN Calciate(2-), [[N,N'-1,2-ethanediylbis[N-[(carboxy-κO)methyl]glycinato-κN,κO]](4-)]-, disodium, (OC-6-21)-(9CI) (CA INDEX NAME)



●2 Na^+

L37 ANSWER 12 OF 30 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

2000295204 EMBASE Bone lead concentrations assessed by in vivo X-Ray **fluorescence**. Ambrose T.M.; Al-Lozi M.; Scott M.G.. M.G. Scott, Departments of Laboratory Medicine, Washington Univ. School of Medicine, 660 S. Euclid St., St. Louis, MO 63110-1093, United States. mscott@pathbox.wustl.edu. Clinical Chemistry 46/8 I (1171-1178) 2000. Refs: 49.
ISSN: 0009-9147. CODEN: CLCHAU. Pub. Country: United States. Language: English. Summary Language: English.

AB The assessment of past chronic lead exposure is difficult. Chronic lead burden is not always correctly assessed using laboratory-based tests that are useful for acute or recent exposures. We describe a case of suspected chronic lead exposure that illustrated the need for improved and possibly noninvasive methods to determine cumulative lead body burden. X-Ray **fluorescence** (XRF) is discussed as a method to obtain in vivo bone lead measurements. We discuss the potential of such measurements as accurate biomarkers of cumulative exposure and whether XRF can be used for retroactive exposure assessment or to predict risk of future health problems. (C) 2000 American Association for Clinical Chemistry.

L37 ANSWER 13 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

2000:247812 Document No.: PREV200000247812. Zinc in the extracellular area of the central nervous system is necessary for the development of kainic acid-induced persistent hyperalgesia in mice. Larson, Alice A. [Reprint author]; Giovengo, Susan L.; Shi, Qiuying; Velazquez, Ruben A.; Kovacs, Katalin J.. Department of Veterinary Pathobiology, University of Minnesota, 1988 Fitch Avenue, 295 AnSci/VetMed Building, Saint Paul, MN, 55108, USA. Pain, (May, 2000) Vol. 86, No. 1-2, pp. 177-184. print.
CODEN: PAINDB. ISSN: 0304-3959. Language: English.

AB Kainic acid produces a persistent hyperalgesia when injected intraperitoneally (i.p.) in the rat or mouse. At higher doses than those needed to influence nociception, kainic acid induces seizures and translocation of histologically reactive zinc in the hippocampus. We tested the hypothesis that zinc, localized in a population of small diameter primary afferent neurons, plays a role in kainic acid-induced hyperalgesia similar to that in the hippocampus where zinc translocation

Searched by: Mary Hale 571-272-2507 REM 1D86

accompanies kainic acid-induced seizures. The importance of zinc in the extracellular area was assessed by the influence of compounds that chelate divalent cations (disodium calcium ethylene diaminetetraacetate (CaEDTA)) or zinc (dipicolinic acid (DPA)) on kainic acid-induced hyperalgesia. When measured using the tail flick assay, thermal hyperalgesia was blocked by pretreatment intrathecally (i.t.) with either 10 nmol of NaCaEDTA or 1 nmol of DPA, drugs whose distribution is limited to the extracellular area. Injection of 10 ng zinc chloride i.t. had no long-term effect on nociception or on kainic acid-induced hyperalgesia. Whether zinc is translocated in response to a hyperalgesic dose of kainic acid was determined using the zinc-selective dye, N-(6-methoxy-8-quinolyl)-para-toluenensulfonamide (TSQ), which produces a delicate stain in the neuropil of the mouse spinal cord as well as a dense stain in the hippocampus. Injection of a hyperalgesic dose of kainic acid failed to alter TSQ **fluorescence** in either the spinal cord or hippocampus, in contrast to the distinct bleaching of TSQ in the hippocampus 24 h after a convulsant dose of kainic acid. Together these data suggest that, while not translocated, zinc in the extracellular area is necessary but not sufficient for the development of kainic acid-induced hyperalgesia.

L37 ANSWER 14 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

2001:80899 Document No.: PREV200100080899. Late icv injection of CaEDTA rescues hippocampal CA1 neurons after global ischemia. Calderone, A. [Reprint author]; Tanaka, H.; Jover, T.; Grooms, S. Y.; Bennett, M. V.; Zukin, R. S.. Albert Einstein College of Medicine, Bronx, NY, USA. Society for Neuroscience Abstracts, (2000) Vol. 26, No. 1-2, pp. Abstract No.-340.15. print.
Meeting Info.: 30th Annual Meeting of the Society of Neuroscience. New Orleans, LA, USA. November 04-09, 2000. Society for Neuroscience.
ISSN: 0190-5295. Language: English.

AB Transient global ischemia induces selective delayed cell death, primarily in the hippocampal CA1. After ischemia, vulnerable neurons appear morphologically and functionally but die several days later, suggesting a long therapeutic window. Cell death requires an early translocation of Zn2+ from presynaptic fibers to the cell bodies of vulnerable postsynaptic neurons (Koh et al., Science 272:1013-16, 1996) and a delayed rise in intracellular Ca2+ and/or Zn2+ which may be mediated by GluR2-lacking AMPA receptors. To examine whether late influx of Zn2+ plays a role in delayed neurodegeneration, we injected CaEDTA i.c.v at various times after global ischemia (5 min bilateral carotid occlusion) in adult male gerbils. Neuronal death was assessed histologically and Zn2+ levels detected by the Zn2+-specific **fluorescent** dye TSQ. Global ischemia induced death of CA1 neurons by 7 days. CaEDTA injected at 3 or 6 h after ischemia was ineffective. CaEDTA injected at 16, 48 or 60 h (but not 72 h) after ischemia afforded robust protection of CA1 neurons. In rats CaEDTA injected prior to ischemia afforded protection of CA1 neurons from ischemia-induced death (ibid). These findings are consistent with dual mechanisms whereby Zn2+ could contribute to the delayed death of CA1 neurons: 1) at early times, Zn2+ contributes indirectly to delayed cell death, presumably by regulation of gene expression; 2) at late times, Zn2+ enters CA1 neurons through GluR2-lacking AMPARs to induce cell death via excitotoxicity.

L37 ANSWER 15 OF 30 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

97184934 EMBASE Document No.: 1997184934. Clinical applications of L-line x-ray **fluorescence** to estimate bone lead values in lead-poisoned young children and in children, teenagers, and adults from lead-exposed and non-lead-exposed suburban communities in the United States. Rosen J.F.. Dr. J.F. Rosen, Montefiore Medical Center, 111 East 210th St., Bronx, NY 10467, United States. Toxicology and Industrial Health 13/2-3 (211-218) 1997.

Searched by: Mary Hale 571-272-2507 REM 1D86

Refs: 20.
ISSN: 0748-2337. CODEN: TIHEEC. Pub. Country: United States. Language: English. Summary Language: English.

AB In summary, LXRF estimates of Pb in tibial cortical bone have yielded highly relevant clinical data relating to the efficacy of chelation therapy with CaNa2EDTA in lead poisoned children; diagnostic approach(es) to childhood lead poisoning; and evaluations of exposure in children, teenagers, and adults in lead-exposed and non-lead-exposed suburban communities. It is anticipated that KXRF and LXRF estimates of Pb in bone will yield new information concerning the epidemiology of hypertension, osteoporosis, and the contribution of maternal Pb to the developing fetus.

L37 ANSWER 16 OF 30 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

96338707 EMBASE Document No.: 1996338707. Moderate lead poisoning: Trends in blood lead levels in unchelated children. Markowitz M.E.; Bijur P.E.; Ruff H.A.; Balbi K.; Rosen J.F.. Department of Pediatrics, Montefiore Medical Center, 111 E 210th Street,Bronx, NY 10467, United States. Environmental Health Perspectives 104/9 (968-972) 1996.
ISSN: 0091-6765. CODEN: EVHPAZ. Pub. Country: United States. Language: English. Summary Language: English.

AB The appropriate clinical management of children who are moderately poisoned with lead (Pb) is under active investigation. To determine the Pattern of change in blood Pb (BPb) levels in the absence,of therapy we followed moderately Pd-poisoned children (initial blood Pb level 1.21-2.66 μmol/l or 25-55 μp/dl) for 6 months with repeated BPb level measurements. Chelation therapy was not administered because all the children had negative lead mobilization tests indicating limited response to the chelating agent, calcium disodium edetate (CaNa2EDTA). Eligible children received the following interventions: notification of the health department to remediate lead hazards; reinforced educational efforts about the toxicity sources and treatment of Pb during 10 clinic and 3 home visits; and iron therapy for children with ferritin levels less than 16 μg/l. To quantify the lead paint hazards in the home, we combined a visual rating of the surfaces (intact to peeling) with an X-ray **fluorescence** (XRF)) measurement of the lead content of the painted surface. The sum of these assessments is termed the home environmental score (HES). Data were analyzed from 79 children. BPb levels declined by 27%, on average, over 6 months. HES was correlated with BPb at enrollment, but neither the initial nor the initial nor later HES measurements predicted BPb at other time points. The HES was highest at enrollment declined by 50% and 75% at the second and third home visits, respectively. However, only a minority of the children (20%) achieved an HES of O, indicating no lead paint hazards at home. Despite some ongoing Pb exposure, a parallel fall in BPb levels were observed in subgroups of children with either initially low or high HES (above or below the median HES of 37). Iron status did nor account for the for the change in BPb levels. These data provide evidence that our measure the HES, is quantifiably related to BPb levels in children; that this correlation is significant only prior to intervention; and that BPb levels decline in children who are moderately poisoned with Pb after they are enrolled in a comprehensive intervention program, even in the absence of chelation therapy and in the presence of ongoing lead paint exposure and Fe deficiency.

L37 ANSWER 17 OF 30 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

96243656 EMBASE Document No.: 1996243656. Sensitive spectrofluorimetric method for the determination of ethylenediaminetetraacetic acid and its salts in foods with zirconium ions and Alizarin Red S in a micellar medium. Garcia Campana A.M.; Ales Barrero F.; Roman Ceba M.. Department of Analytical Chemistry, Faculty of Sciences, University of Granada,18071

Searched by: Mary Hale 571-272-2507 REM 1D86

Granada, Spain. Analytica Chimica Acta 329/3 (319-325) 1996. ISSN: 0003-2670. CODEN: ACACAM. Pub. Country: Netherlands. Language: English. Summary Language: English.

AB A simple and very sensitive method for the spectrofluorimetric determination of ethylenediaminetetraacetic acid (EDTA) in foods is proposed. The method involves the reaction of EDTA with Zr(IV) and Alizarin Red S to produce a ternary complex which exhibits a high **fluorescence** intensity at 600 nm with excitation at 478 nm. In the presence of a cationic micellar medium (hexadecyltrimethylammonium bromide) this emission is greatly enhanced, allowing the establishment of the first spectrofluorimetric determination of EDTA at pH 4.7, with a detection limit of 3.4 ng ml-1. The influence of several substances usually present in commercial foods is discussed. The method has been applied to the determination of EDTA in various foods (mayonnaise, legumes) and the results obtained have been validated by standard addition methodology.

L37 ANSWER 18 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1996:78959 Document No. 124:196131 Application of EDXRF to the determination of lead and other trace elements in the body fluids of industrial workers in Vietnam. Nguyen Thi Hong; Huynh Vinh Ha (Dep. Methods Analysis, Inst. Mater. Sci., Hanoi, Vietnam). X-Ray Spectrometry, 25(1), 3-14 (English) 1996. CODEN: XRSPAX. ISSN: 0049-8246. Publisher: Wiley.

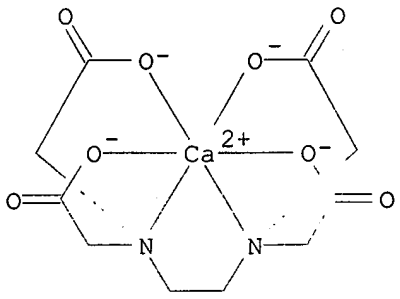
AB Using energy-dispersive x-ray **fluorescence** anal., the levels of Pb, K, Ca, Fe, Cu, Zn, Br, Rb, Sr and As were determined in the urine of 937 workers exposed to high levels of Pb intake in six different working situations. Of all the trace elements, Pb was observed to increase the most when comparing the urine samples of the workers in the examined group and the 50 in the control group. The concns. of Pb and other trace elements were also determined in the blood of the workers in a battery plant (which contains the highest Pb concns. in the indoor air) and at petrol stations (which contain the lowest Pb level in the indoor air of the exposed group). The maximum increase in trace elements in the blood samples of the workers compared with the control group was observed for Pb but also for Rb, As and Br. The concns. of K, Fe, Cu and Zn were decreased in all of them. The levels of Pb in the urine and in the blood were compared with those of other elements, e.g. Cu, Zn and Fe. The concns. of Pb and other trace elements were also studied in the immediate surroundings of six different industrial sectors, e.g. in air, soil and spinach. A pos. correlation was obtained between the content of Pb and other trace elements in the urine of exposed workers and the environmental samples. A comparison between Pb-eliminating medicine ethambutol, calcium disodium edetate (calcium EDTA) and multi-vitamins for Pb-exposed workers showed a reduction in the levels of Pb in the blood and in the urine of the workers. A sample preparation method suitable for the EDXRF anal. of blood, spinach, soil and urine is described.

IT **62-33-9**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lead elimination; lead and other trace elements in body fluids of industrial workers in Vietnam)

RN 62-33-9 HCAPLUS

CN Calciate(2-), [[N,N'-1,2-ethanediylbis[N-[(carboxy-κO)methyl]glycinato-κN,κO]](4-)]-, disodium, (OC-6-21)-(9CI) (CA INDEX NAME)

Searched by: Mary Hale 571-272-2507 REM 1D86



●2 Na^+

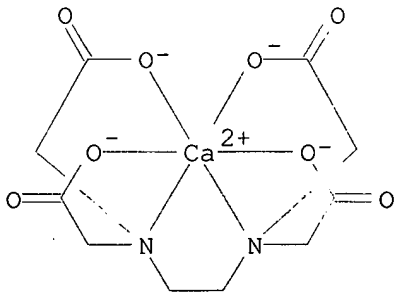
L37 ANSWER 19 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
1994:512180 Document No. 121:112180 Method of detecting the permeability of an object to oxygen for flaw determination. Bull, Christopher; Barmore, Charles R. (W. R. Grace & Co., USA). U.S. US 5316949 A 19940531, 13 pp. (English). CODEN: USXXAM. APPLICATION: US 1992-988511 19921210.

AB A **fluorescent** redox indicator, preferably riboflavin, is dispersed in a carrier and placed on an impermeable substrate. The article to be measured is placed adjacent to the carrier. Residual O is removed, the redox indicator is photoreduced, the article and carrier are exposed to O, and the indicator is exposed to UV light for visualization of redox changes. The method (LOTIS - low oxygen transmission imaging system) allows the detection of flaws in an oxygen barrier such as pinholes and cracks, useful in testing food wraps.

IT **62-33-9**, Calcium EDTA
RL: USES (Uses)
(in LOTIS system for determination of oxygen leaks through pinholes and cracks)

RN 62-33-9 HCAPLUS

CN Calciate(2-), [[N,N'-1,2-ethanediylbis[N-[(carboxy-κO)methyl]glycinato-κN,κO]](4-)]-, disodium, (OC-6-21)-(9CI) (CA INDEX NAME)



●2 Na^+

L37 ANSWER 20 OF 30 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

Searched by: Mary Hale 571-272-2507 REM 1D86

94209111 EMBASE Document No.: 1994209111. Validity of lead exposure markers in diagnosis and surveillance. Graziano J.H.. Department of Pharmacology, College of Physicians and Surgeons, Columbia University, 630 West 168th Street,New York, NY 10032, United States. Clinical Chemistry 40/7 II (1387-1390) 1994.
ISSN: 0009-9147. CODEN: CLCHAU. Pub. Country: United States. Language: English. Summary Language: English.

AB Extensive research has been devoted to the development of biomarkers of environmental and occupational exposure to lead (Pb). This body of work can serve as a paradigm for biomarker development for other chemical exposures. Early efforts focused on indirect measurements of exposure by analyzing precursors and enzymes of a biosynthetic pathway (heme) in blood and urine. However, the direct measurement of Pb in blood has become increasingly simple and reliable and is now widely accepted for pediatric surveillance programs, in part because of known associations of Pb with adverse health outcomes. Other markers of exposure include measurements of Pb in important compartments: bone Pb, tooth Pb, and chelatable Pb. In addition, the technique of stable isotope dilution is available, since Pb exists in numerous nonradioactive isotopic forms. The strengths and weaknesses of all Pb biomarkers for confirming a diagnosis or for epidemiologic research vary widely depending upon the hypothesis under investigation.

L37 ANSWER 21 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
1994:358638 Document No.: PREV199497371638. Encapsulation of Agrobacterium Ti plasmid into liposomes. Park, Jae Soo; Park, Hee Jin; Kim, In-Soo [Reprint author]. Dep. Genetic Eng., Coll. Natural Sci., Kyung-Pook Natl. Univ., Taegu 702-701, South Korea. Korean Biochemical Journal, (1994) Vol. 27, No. 3, pp. 190-195.
CODEN: KBCJAK. ISSN: 0368-4881. Language: English.

AB Encapsulation of Agrobacterium tumefaciens Ti plasmid into liposomes has been studied in order to develop a tool to introduce purified Ti plasmid into plant protoplasts. The efficiency of encapsulation was determined by the radioactivity of 3H-Ti plasmid and by the **fluorescence** of octadecyl rhodamine B embedded in the liposome bilayer. The lyophilization-rehydration method encapsulated at least a 20 fold greater amount of the Ti plasmid into liposomes than the reverse-phase evaporation and the Ca-2+-EDTA chelation methods. These latter two methods are usually used to encapsulate larger molecules into liposomes. When lyophilization-rehydration method was used, the encapsulation efficiency of the plasmid into liposome ranged from 7 to 30%, depending upon liposomal lipid compositions. The lipid composition also had great influence on the adhesion of the plasmid on the liposome surface and stability of the encapsulated plasmid. Based on the above mentioned factors. phosphatidylserine-cholesterol (PS/Chol; 1 to 1 molar ratio) liposome prepared by the lyophilization-rehydration were a good choice for encapsulating Ti plasmid. The optimal ratio of Ti plasmid to lipid was determined to be 15 to 30 pg of Ti plasmid per mu-mol of PS. Under the conditions described, 5 to 8 mu-g of Ti plasmid was encapsulated into the PS/Chol liposome (mu-mol PS).

L37 ANSWER 22 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 1
1993:439440 Document No.: PREV199396094065. Effects of calcium disodium versenate chelation in moderate childhood lead poisoning. Markowitz, Morri E. [Reprint author]; Bijur, Polly E.; Ruff, Holly; Rosen, John F.. Dep. Pediatr., Montefiore Med. Cent., 111 E. 210th St., Bronx, NY 10467, USA. Pediatrics, (1993) Vol. 92, No. 2, pp. 265-271.
CODEN: PEDIAU. ISSN: 0031-4005. Language: English.

AB Background: For children with asymptomatic moderate lead poisoning (Blood lead level (BPb) 25 to 55 mu-g/dL (1.21 to 2.66 pmol/L)), treatment with the chelating agent calcium disodium versenate (CaNa-2EDTA) is recommended

for all those children with a BPb level gt 45 mu-g/dL (2.17 mu-mol/L) and for those with a BPb level of 25 to 44 mu-g/dL (1.21 to 2.13 mu-mol/L) who also have a positive lead mobilization test. However, controlled studies demonstrating its efficacy at inducing a sustained reduction in BPb level or lead-related toxicity have not been performed in children with moderate lead poisoning. This study assesses the relationship between CaNa-2EDTA chelation and measures of lead burden and toxicity in children with moderate lead poisoning. Methods: Two hundred one children with moderate lead poisoning were enrolled. Sequential changes in BPb concentrations, bone lead level as measured by L-alpha-x-ray **fluorescence**, and lead-induced toxicity as assessed by erythrocyte protoporphyrin levels were determined over a 7-week period. From this group, children with a positive lead mobilization test received CaNa-2EDTA chelation therapy. Results: Children with positive lead mobilization tests had on average higher initial BPb, bone lead, and erythrocyte protoporphyrin concentrations. The chelated children decreased approximately 4.7 mu-g/dL (0.23 mu-mol/L), 41 corrected net counts, and 24 mu-g/dL (0.46 mu-mol/L) more than the unchelated children on BPb, bone lead, and erythrocyte protoporphyrin values, respectively. However, children with higher initial levels decreased the most, whereas children with lower initial levels showed the least decline, with or without treatment. When the initial values on the measures were controlled analytically, or when subgroups matched on initial levels were compared, there were no significant differences between the chelated and unchelated children. Conclusions: The apparent effectiveness of CaNa-2EDTA at reducing lead burden and toxicity is no longer observed when the pretreatment levels are considered. The findings suggest that sufficient doubt about CaNa-2EDTA efficacy now exists to warrant a randomized controlled trial of chelation therapy in moderately lead-poisoned children. However, until such studies are performed, it would be premature to withhold chelation treatment on the basis of this study alone.

L37 ANSWER 23 OF 30 EMBASE
on STN

93292820 EMBASE Document No.: 1993292820. Trends in the management of childhood lead poisonings. Rosen J.F.; Markowitz M.E.. Albert Einstein College of Medicine, Montefiore Medical Center, 111 E. 210th Street,Bronx, NY 10467, United States. NeuroToxicology 14/2-3 (211-218) 1993. ISSN: 0161-813X. CODEN: NRTXDN. Pub. Country: United States. Language: English. Summary Language: English.

AB It is unknown whether prompt medical management (with or without chelation therapy) and environmental intervention have beneficial effects other than stopping the progression towards symptomatic childhood lead poisoning. Stated differently, does prompt intervention have substantive beneficial effects or are untreated lead toxic children with blood lead values between 25-54 μg/dl irrevocably damaged by the time of their identification. We are carrying out a prospective treatment outcome study with CaNa2EDTA (when indicated) at our Center to hopefully answer this critical question, within the context of a multidisciplinary study. The results in 162 children indicate that environmental and medical management produce significant reductions in blood lead, erythrocyte protoporphyrin and the lead diuresis during a CaNa2EDTA provocative test. However, CaNa2EDTA treatment failed to decrease bone lead values dramatically, measured by L-line x-ray **fluorescence**, six months after enrollment in any patient group (treated or untreated with CaNa2EDTA). The uses of L-line x-ray **fluorescence** in this study and K-line x-ray **fluorescence** measurements of lead in bone in other reported studies open a wide time window of months to years of lead exposure, compared to 30-45 days, the time of exposure captured by blood lead levels. As with all chelating agents, DMSA should be administered to children in lead free housing, after this drug's toxicity is more widely assessed. The potential capability of DMSA to ameliorate neurobehavioral

deficits produced by lead must be systematically assessed and compared with CaNa2EDTA in a randomized, controlled study before the use (s) of either drug become uncritically accepted as the treatment of choice for childhood lead poisoning, in addition to full abatement.

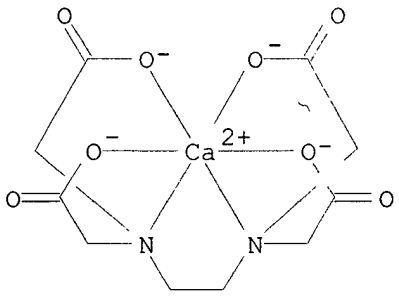
L37 ANSWER 24 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
1993:2240 Document No. 118:2240 An EDTA.calcium ion complex inhibits the enzymic activity but not the lethality of β-bungarotoxin. Shina, R.; Rosenberg, P.; Condrea, E. (Felsenstein Med. Res. Cent., Petah Tikva, Israel). Toxicon, 30(11), 1501-4 (English) 1992. CODEN: TOXIA6. ISSN: 0041-0101.

AB An EDTA.Ca2+ complex inhibits the phospholipase A2 activity of the presynaptic neurotoxin β-bungarotoxin without affecting its lethal potency. The EDTA.Ca2+ complex induces a conformational change in the enzymic active site region of β-BuTx, as indicated by the suppression of the 340 nm tryptophan **fluorescence** peak. Modification of the enzymic site without loss of toxicity supports the presence of sep. loci for the two activities.

IT **12264-18-5**
RL: BIOL (Biological study)
(β-bungarotoxin inhibition by)

RN 12264-18-5 HCAPLUS

CN Calciate(2-), [[N,N'-1,2-ethanediylbis[N-[(carboxy-κO)methyl]glycinato-κN,κO]](4-)]-, dihydrogen, (OC-6-21)- (9CI) (CA INDEX NAME)



●2 H+

L37 ANSWER 25 OF 30 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

93086685 EMBASE Document No.: 1993086685. Removing lead from bone: Clinical implications of bone lead stores. Wedeen R.P.. VA Medical Center,East Orange, NJ 07019, United States. NeuroToxicology 13/4 (843-852) 1992. ISSN: 0161-813X. CODEN: NRTXDN. Pub. Country: United States. Language: English. Summary Language: English.

AB The chelating agent, CaNa2EDTA, has proven useful for both the diagnosis and treatment of lead poisoning. The EDTA lead-mobilization test has demonstrated the presence of excessive body lead stores when blood concentrations were 'normal.' The EDTA lead-mobilization test is, however, impractical because it requires injections and timed urine collections. Bone lead measured in biopsy specimens by atomic absorption spectroscopy shows a good correlation with chelatable lead. Over 95% of the body stores of lead are retained in bone with a biological half-life approximating two decades. The half-life of lead in blood, on the other hand, approximates one month. Bone, therefore, provides a good estimate of cumulative lead

Searched by: Mary Hale 571-272-2507 REM 1D86

absorption. In vivo tibial K x-ray **fluorescence** (XRF) is a saf,e speciafic and reliable technique for the non-invasive measurement of elevated bone lead concentrations. K XRF measures lead to a depth of about 2 cm in cortical bone and is largely independent of geometric factors because lead is measured relative to bone calcium. In vivo tibial K XRF can therefore replace the EDTA lead-mobilization test and bone biopsies for assessing body lead stores and for following the efficacy and end-point of deleading during chelation therapy.

L37 ANSWER 26 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2

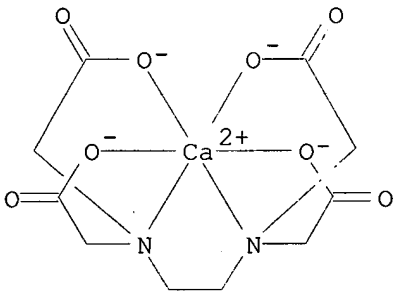
1992:432889 Document No. 117:32889 Chelated lead and bone lead. Tell, Inge; Somervaille, Lillian J.; Nilsson, Ulf; Bensryd, Inger; Schuetz, Andrejs; Chettle, David R.; Scott, Malcolm C.; Skerfving, Staffan (Dep. Occupat. Environ. Med., Univ. Hosp., Lund, Swed.). Scandinavian Journal of Work, Environment & Health, 18(2), 113-19 (English) 1992. CODEN: SWEHDO. ISSN: 0355-3140.

AB There was a close correlation between the blood Pb level of 20 Pb workers and their urinary excretion of Pb for 24 h after i.v. infusion of CaNa2EDTA. In addition, there were significant assocns. between Pb levels in different bones (tibia/calcaneus, tibia/phalanx, and calcaneus/phalanx), as measured by in vivo x-ray **fluorescence**. Chelation produced no significant change in the Pb level in either tibia or calcaneus. There was a significant correlation between chelated Pb and bone Pb in currently exposed workers. However, there was no significant relationship when a retired worker and an inactive worker were included. It is concluded that chelatable Pb mainly reflects the blood and soft-tissue Pb pool, which is only partly dependent on the skeletal Pb content that comprises the biggest share of the total body burden.

IT **62-33-9**, Calcium sodium EDTA
RL: OCCU (Occurrence)
(lead chelated with, in human blood and urine, of lead-exposed workers, bone lead levels in relation to)

RN 62-33-9 HCAPLUS

CN Calciate(2-), [[N,N'-1,2-ethanediylbis[N-[(carboxy-κO)methyl]glycinato-κN,κO]](4-)]-, disodium, (OC-6-21)-(9CI) (CA INDEX NAME)



●2 Na^+

L37 ANSWER 27 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 3

1991:514795 Document No.: PREV199141115510; BR41:115510. SEQUENTIAL MEASUREMENTS OF BONE LEAD CONTENT BY L X-RAY **FLUORESCENCE** IN DISODIUM CALCIUM EDTA-TREATED LEAD-TOXIC CHILDREN. ROSEN J F [Reprint author]; MARKOWITZ M E; BIJUR P E; JENKS S T; WIELOPOSKI L; KALEF-EZRA J

Searched by: Mary Hale 571-272-2507 REM 1D86

A; SLATKIN D N. DEP PEDIATR, ALBERTA EINSTEIN COLL MED, MONTEFIORE MED CENT, 111 EAST 210TH ST, BRONX, NY 10467, USA. Environmental Health Perspectives, (1991) Vol. 93, pp. 271-277.
Meeting Info.: INTERNATIONAL CONFERENCE ON CRITICAL TARGET GENES IN CHEMICAL CARCINOGENESIS, RESEARCH TRIANGLE PARK, NORTH CAROLINA, USA, SEPTEMBER 10-14, 1989. ENVIRON HEALTH PERSPECT.
CODEN: EVHPAZ. ISSN: 0091-6765. Language: ENGLISH.

L37 ANSWER 28 OF 30 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

91140755 EMBASE Document No.: 1991140755. Sequential measurements of bone lead content by L X-ray **fluorescence** in CaNa2EDTA-treated lead-toxic children. Rosen J.F.; Markowitz M.E.; Bijur P.E.; Jenks S.T.; Wielopolski L.; Kalef-Ezra J.A.; Slatkin D.N.. Department of Pediatrics, Albert Einstein College of Medicine, Montefiore Medical Center, 111 East 210th Street, Bronx, NY 10467, United States. Environmental Health Perspectives 91/- (57-62) 1991.
ISSN: 0091-6765. CODEN: EVHPAZ. Pub. Country: United States. Language: English. Summary Language: English.

AB With the development of L X-ray **fluorescence** (LXRF) to measure cortical bone lead directly, safely, rapidly, and noninvasively, the present study was undertaken to a) evaluate LXRF as a possible replacement for the CaNa2EDTA test; b) quantify lead in tibial cortical bones of mildly to moderately lead-toxic children before treatment; and c) quantify lead in tibial cortical bones of lead-toxic children sequentially following one to two courses of chelation therapy. The clinical research design was based upon a longitudinal assessment of 59 untreated lead-toxic children. At enrollment, if the blood lead (PbB) was 25 to 55 μg/dL and the erythrocyte protoporphyrin (EP) concentration was ≥35 μg/dL, LXRF measurement of tibial bone lead was carried out. One day later, each child underwent a CaNa2EDTA provocative test. If this test was positive, lead-toxic children were admitted to the hospital for 5 days of CaNa2EDTA therapy. These tests were repeated 6 weeks and 6 months after enrollment. Abatement of lead paint hazards was achieved in most apartments by the time of initial hospital discharge. The LXRF instrument consists of a low energy X-ray generator with a silver anode, a lithium-doped silicon detector, a polarizer of incident photons, and a multichannel X-ray analyzer. Partially polarized photons are directed at the subcutaneous, medial mid-tibial cortical bone. The LXRF spectrum, measured 90° from the incident beam, reveals a peak in the 10.5 KeV region, which represents the lead Lα line. The effective dose equivalent using tissue weighting factors according to guidelines of the National Council on Radiation Protection and Measurements (1989), was 2.5 μSv. The reproducibility of replicate LXRF measurements, including the day-to-day variation of the instrument, in 26 lead-toxic children, after repositioning the instrument within 5 cm of the first LXRF measurements, was ±9.2 (95% confidence limits). For an overlying tibial skin thickness of 5 mm, the minimum detection limit was 7 μg of lead/g (wet weight) at the 95% confidence interval. Based upon a discriminant analysis, 90% of lead-toxic children were predicted correctly as being CaNa2EDTA-positive or CaNa2EDTA-negative. Using LXRF and PbB values to predict CaNa2EDTA outcomes, the specificity and sensitivity of these two predictors were 86 and 93%, respectively. In a significant fraction of CaNa2EDTA-positive and CaNa2EDTA-negative children, cortical bone lead values were similar to lead concentrations measured via bone biopsy in normal adults and lead workers in industry. By 24 weeks after enrollment, PbB, EP, and urinary lead/EDTA ratios were similar in all groups. The most dramatic decreases in net corrected photon counts by LXRF occurred in children treated twice. Mean values of cortical bone lead by LXRF at 24 weeks in all three groups of children were similar to the mean concentration in untreated CaNa2EDTA-negative children at enrollment but still three to five times greater than those measured in the tibia or

whole teeth of normal European children using atomic absorption. In lead-toxic children who did not qualify for treatment, additional significant accumulation of lead in bone ended once children were removed from leaded environments or returned to lead-abated apartments. These data suggest that LXRF measurements of lead in tibial cortical bone have considerable promise to replace the CaNa2EDTA test and to provide a more appropriate end point of chelation therapy than the conventional indices of PbB and EP. Moreover, markedly elevated bone lead values accumulated during early childhood may have an intergenerational impact, as maternal lead stores amassed during childhood cross the placenta and directly affect the developing fetus.

L37 ANSWER 29 OF 30 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

90139892 EMBASE Document No.: 1990139892. Meso-2,3-dimercaptosuccinic acid: Chemical, pharmacological and toxicological properties of an orally effective metal chelating agent. Aposhian H.V.; Aposhian M.M.. Department of Molecular and Cellular Biology, University of Arizona, Tucson, AZ 85721, United States. Annual Review of Pharmacology and Toxicology 30/- (279-306) 1990.
ISSN: 0066-4251. CODEN: ARPTDI. Pub. Country: United States. Language: English. Summary Language: English.

AB The primary purpose of this article is to summarize the recent investigations dealing with the pharmacology and toxicology of meso-2,3-dimercaptosuccinic acid, an orally effective chelating agent. The need for a better chelating agent for treating young children and pregnant women with lead intoxication has been apparent for some time. Preclinical and clinical evidence now indicate that meso-2,3-dimercaptosuccinic acid, an Orphan Drug, shows the most promise for being effective in this regard. It has an extracellular distribution that may be responsible for its low toxicity compared to other dithiols. No attempt has been made to compare it in a rigourous and thorough manner with other chelating agents. That has not been the purpose of this review. The advantages of meso-DMSA, however, compared to CaNa2EDTA for the treatment of lead intoxication, have been outlined. Significant advances have been made recently in elucidating the structures of the metal chelates of DMSA. There is a striking difference between the structures of the lead chelate of meso-DMSA and those of racemic-DMSA. The former chelates by coordination of one sulfur and one oxygen atom with Pb. The letter can form chelates via the two sulphur atoms or via one oxygen and one sulfur atom. Solubility of the lead chelates depends on the ionization of the noncoordinated thiol and carboxylic acid groups. Bimane derivatization, HPLC, and **fluorescence**, as well as gas chromatography can be used for analysis of DNSA in biological fluids. The acid dissociation constants for meso- and recemic-DMSA have been summarized from the literature as have the formation constants of some of the DMSA chelates. DMSA is biotransformed to a mixed disulfide in humans. By 14 hr after DMSA administration (10 mg/kg), only 2.5% of the administered DMSA is excreted in the urine as unaltered DMSA and 18.1% or the dose is found in the urine as altered forms of DMSA. Most altered DMSA in the urine is in the form of a mixed dislfide. It consists of DMSA in disulfide linkages with two molecules of L-cysteine. One molecule of cysteine is attached to each of the sulfur atoms of DMSA. The remaining 10% of the altered DMSA was in the form of cyclic disulfides of DMSA. So far, the mixed disulfide has been found in human but not in rabbit, mouse, or rat urine. Apparently there are species differences in how organisms metabolize meso-DMSA. Animal studies using meso-DMSA as an antidote for intoxication with aluminum, arsenic, bisbuth, cadmium, cobalt, copper, gold, mercury, platinum, manganese, polondium-210, an vanadium are summarized as are other properties of this dithiol chelating agent. The question still remains whether meso-DMSA is a prodrug.

Searched by: Mary Hale 571-272-2507 REM 1D86

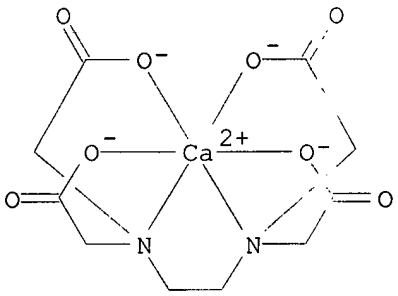
L37 ANSWER 30 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
1989:130108 Document No. 110:130108 Reducing bone lead content by chelation treatment in chronic lead poisoning: an in vivo x-ray **fluorescence** and bone biopsy study. Batuman, Vecihi; Wedeen, Richard P.; Bogden, John D.; Balestra, Dominic J.; Jones, Keith; Schidlovsky, George (VA Med. Cent., East Orange, NJ, 07019, USA). Environmental Research, 48(1), 70-5 (English) 1989. CODEN: ENVRAL. ISSN: 0013-9351.

AB A subject with long standing exposure to lead and neuropsychiatric symptoms was evaluated before and after chelation treatment by the CaNa2 EDTA lead mobilization test, iliac crest bone lead measurement, and in vivo tibial x-ray **fluorescence** (XRF). The 3 methods showed a progressive fall in body lead stores during chelation therapy in association with improvement in symptoms and a fall in blood lead and zinc protoporphyrin levels. In vivo tibial XRF is a safe, rapid, and noninvasive technique for detecting excessive body lead burdens. XRF measurement of bone lead content is a practical method for monitoring the efficacy of therapy as well as for establishing the diagnosis.

IT **62-33-9**, Calcium disodium EDTA
RL: BIOL (Biological study)
(lead poisoning treatment with, in humans, x-ray **fluorescence** in monitoring of)

RN 62-33-9 HCAPLUS

CN Calciate(2-), [[N,N'-1,2-ethanediylbis[N-[(carboxy-κO)methyl]glycinato-κN,κO]](4-)]-, disodium, (OC-6-21)-(9CI) (CA INDEX NAME)



●2 Na^+

=> fil reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	99.24	1146.11

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-5.54	-13.86

FILE 'REGISTRY' ENTERED AT 09:40:08 ON 22 JUN 2004
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Property values tagged with IC are from the ZIC/VINITI data file

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provided by InfoChem.

STRUCTURE FILE UPDATES: 21 JUN 2004 HIGHEST RN 697224-75-2
DICTIONARY FILE UPDATES: 21 JUN 2004 HIGHEST RN 697224-75-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

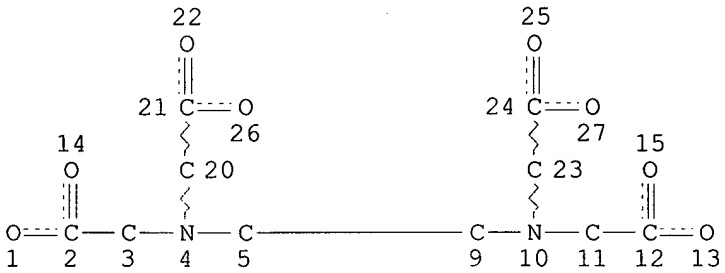
=> => d l38 que stat
L18 STR

M 1

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 1

STEREO ATTRIBUTES: NONE
L28 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE
L38 345 SEA FILE=REGISTRY SSS FUL L28 AND L18

100.0% PROCESSED 6404 ITERATIONS 345 ANSWERS
SEARCH TIME: 00.00.01

=> fil medl,hcap,embase,biosis;s l38 and (fluorophore or fluorescen? or antichelat? or anti chelat?)

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```
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   155.84    1301.95

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
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CA SUBSCRIBER PRICE                                     0.00     -13.86

FILE 'MEDLINE' ENTERED AT 09:41:16 ON 22 JUN 2004

FILE 'HCAPLUS' ENTERED AT 09:41:16 ON 22 JUN 2004
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FILE 'BIOSIS' ENTERED AT 09:41:16 ON 22 JUN 2004
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L39             0 FILE MEDLINE
L40           113 FILE HCAPLUS
L41            27 FILE EMBASE
L42            19 FILE BIOSIS

TOTAL FOR ALL FILES
L43           159 L38 AND (FLUOROPHORE OR FLUORESCEN? OR ANTICHELAT? OR ANTI CHELA
                  T?)

=> s l43 not (l36 or l26)
L44             0 FILE MEDLINE
L45           100 FILE HCAPLUS
L46            14 FILE EMBASE
L47             6 FILE BIOSIS

TOTAL FOR ALL FILES
L48           120 L43 NOT (L36 OR L26)

=> s johnson, d?/au or johnson d?/au
L49          5957 FILE MEDLINE
L50          7121 FILE HCAPLUS
L51          4539 FILE EMBASE
L52          8062 FILE BIOSIS

TOTAL FOR ALL FILES
L53         25679 JOHNSON, D?/AU OR JOHNSON D?/AU

=> s l48 and l53
L54             0 FILE MEDLINE
L55             0 FILE HCAPLUS
L56             0 FILE EMBASE
L57             0 FILE BIOSIS

TOTAL FOR ALL FILES
L58             0 L48 AND L53

=> s l53 and chelat?(2a)(metal or fluorophore)
L59             2 FILE MEDLINE
L60             7 FILE HCAPLUS
L61             2 FILE EMBASE


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L62 3 FILE BIOSIS

TOTAL FOR ALL FILES
L63 14 L53 AND CHELAT?(2A)(METAL OR FLUOROPHORE)

=> dup rem l63
PROCESSING COMPLETED FOR L63
L64 9 DUP REM L63 (5 DUPLICATES REMOVED)

=> d cbib abs 1-9

L64 ANSWER 1 OF 9 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
2004:135471 Document No.: PREV200400137429. Nucleic acid binding kinetics of HIV-1 nucleocapsid protein. Karpel, Richard L. [Reprint Author]; Casas-Finet, Jose R.; **Johnson, Donald G.**; Hixson, Catherine V.; Gorelick, Robert J.. Chemistry and Biochemistry, University of Maryland, Baltimore County, Baltimore, MD, USA. Biophysical Journal, (January 2004) Vol. 86, No. 1, pp. 592a. print.
Meeting Info.: 48th Annual Meeting of the Biophysical Society. Baltimore, MD, USA. February 14-18, 2004. Biophysical Society.
ISSN: 0006-3495 (ISSN print). Language: English.

AB The involvement of retroviral nucleocapsid (NC) proteins in the specific packaging of the viral genome, and the various other biologically-relevant nucleic acid-interactive properties of these proteins may be critically dependent on the kinetics of their association with and dissociation from nucleic acid substrates. Utilizing stopped-flow methods, we have initiated a program to determine the kinetic properties and mechanism(s) of these processes. We have determined the association kinetics of HIV-1 NCp7 with a variety of poly- and oligonucleotide lattices of various length, base composition and strandedness by monitoring the quenching of the protein's intrinsic tryptophan fluorescence upon binding. Under conditions of tight binding (10 mM sodium phosphate, pH 7.0, 25degreeC), and with an excess of nucleic acid, the kinetics of poly(U) association are first-order. The rate constant for this process increases linearly with polynucleotide concentration, but is essentially independent of protein concentration. The magnitude of the obtained rate constant suggests that association is diffusion-controlled, or nearly so. Consistent with this, the association rates of a smaller substrate, d(G)8, are about 4-fold greater than those of the polynucleotide. Increasing the (Na+) decreases the poly(U) association rate, as would be expected for the binding of a polyanion with the cationic (pIapprxeq10) NC protein. A log(ka) vs. log(Na+) plot is linear, but shows a slope that is an order of magnitude lower than that for the corresponding double-logarithmic plot using the association equilibrium constant. This suggests that most of the thermodynamic salt dependence of NC-nucleic acid binding originates from the dissociation rate constant. Experiments are in progress to determine the kinetic effects of **metal chelation**, amino acid sequence, solution conditions and temperature on the interaction of NC with nucleic acids.

L64 ANSWER 2 OF 9 MEDLINE on STN DUPLICATE 1
2003161871. PubMed ID: 12678703. Fluorescence polarization immunoassays for metal ions. **Johnson David K.** (BioMetalix, Inc., P. O. Box 601, Twin Lakes, WI 53181-601, USA.. djohnson@busynet.net) . Combinatorial chemistry & high throughput screening, (2003 May) 6 (3) 245-55. Ref: 34. Journal code: 9810948. ISSN: 1386-2073. Pub. country: Netherlands. Language: English.

AB Antibodies raised against a given metal ion complex of a polyaminopolycarboxylate chelating agent can display specificity for the immunizing chelate and, when used in conjunction with a fluorophore-labeled analog of that chelate, can form the basis for highly sensitive and specific methods for detecting that metal ion by competitive

inhibition fluorescence polarization immunoassay (FPIA). Chelate complexes of ethylenediamine-N,N,N',N'- tetraacetic acid (EDTA) and of a hetrocyclic ring-substituted derivative of diethylenetriamine-N, N', N"-triacetic acid (DTTA) have been used to configure such assays for the heavy metal ions lead(II) and cadmium(II) respectively. Limits of detection for the 1:1 **metal chelates** under ideal conditions are 20 ppt for lead(II) and below 100 ppt for cadmium(II). Standard curves for 0 - 100 nM cadmium (II) chelate can be constructed in the presence of fixed 250 nM concentrations of the corresponding, potentially cross-reactive chelates of zinc(II), copper(II) and mercury(II). Cross-reactivity of the lead (II) FPIA with 15 non-target metals is below 0.2% in all cases except for mercury(II) (0.37%). These characteristics have allowed the development of FPIA methods for the quantitative analysis of lead in a variety of samples relevant to environmental monitoring, including soil, dust, solid wastes and drinking water. Although applied thus far to heavy metals that are of concern as toxic contaminants in the environment, anti-chelate FPIA methods are also in principle applicable to a wide variety of other metal ions, including precious metals and various transition and main group elements used or monitored in a range of industrial applications. As conventional methods for trace metal analysis based on atomic spectroscopy are relatively slow, expensive and cumbersome, anti-chelate FPIA methods have the potential to supplant many existing techniques and in so doing extend the use of immunoassay technology beyond the biomedical, veterinary and agricultural spheres in which it has historically found use.

L64 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN

2003:59161 Document No. 139:70596 Hydrogen peroxide bleaching of TMP pulps using Mg(OH)2. **Johnson, D. A.**; Park, S.; Genco, J. M.; Gibson, A.; Wajer, M.; Branch, B. (Dept. of Chemical Engineering, University of Maine, Orono, ME, 04469, USA). TAPPI Fall Technical Conference and Trade Fair, San Diego, CA, United States, Sept. 8-11, 2002, 443-456. TAPPI Press: Atlanta, Ga. ISBN: 1-930657-96-X (English) 2002. CODEN: 69DMJT.

AB A brief discussion of the chemical of peroxide bleaching with Mg(OH)2 is given, and contrasted to conventional peroxide bleaching using sodium silicate and sodium hydroxide as the base. The results of laboratory expts. are also presented comparing conventional and Mg(OH)2 bleaching of TMP pulp. When both the caustic and silicate were replaced with an optimal level of Mg(OH)2, the pulp brightness equaled or exceeded the control bleaching at the same peroxide charge. At equivalent brightness, the residual hydrogen peroxide in the Mg(OH)2/peroxide bleaching stage was higher than for the control caustic/silicate/peroxide bleaching and suggests the possibility of recycling of peroxide for greater efficiency. The Mg(OH)2/peroxide bleaching stage also had lower COD and lower conductivity in the filtrate.

L64 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN

2001:131168 Document No. 134:175263 Diethylenetriamine-N,N',N"-triacetic acid derivatives and antibodies and tracers for metal ion immunoassays. **Johnson, David K.** (USA). U.S. US 6190923 B1 20010220, 30 pp. (English). CODEN: USXXAM. APPLICATION: US 1998-148733 19980904. PRIORITY: US 1997-PV58114 19970905.

AB The present invention relates to the field of immunoassays for metal ions. The invention presents: chelators, chelates, antibodies specific for the chelates, tracers comprising chelates conjugated to detectable labels, and immunoassays utilizing the foregoing. Diethylenetriamine-N(-(2)-(2-amidomethyl)(α-(1-tert butoxycarbonyl)-1-methylethoxyimino)-4-thiazoleacetic acid)-N,N',N'',N''-tetraacetic acid monoanhydride (I) was prepared, conjugated with bovine serum albumin, and loaded with cadmium(II) to produce an immunogen for antibody production in rabbits. I was also reacted with fluoresceinamine (isomer I) and loaded with cadmium ion to prepare a tracer for fluorescence polarization immunoassay of cadmium ions.

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L64 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
2001:130218 Document No. 134:304626 Rational Design and Assembly of M2M'3L6 Supramolecular Clusters with C3h Symmetry by Exploiting Incommensurate Symmetry Numbers. Sun, Xiankai; **Johnson, Darren W.**; Caulder, Dana L.; Raymond, Kenneth N.; Wong, Edward H. (Departments of Chemistry, University of New Hampshire, Durham, NH, 03824, USA). Journal of the American Chemical Society, 123(12), 2752-2763 (English) 2001. CODEN: JACSAT. ISSN: 0002-7863. OTHER SOURCES: CASREACT 134:304626. Publisher: American Chemical Society.

AB A rational approach to heterometallic cluster formation is described that uses incommensurate symmetry requirements at two different metals to control the stoichiometry of the assembly. Critical to this strategy is the proper design and synthesis of hybrid ligands with coordination sites selective toward each metal. The phosphino-catechol ligand 4-(diphenylphosphino)benzene-1,2-diol (H2L) possesses both hard catecholate and soft phosphine donor sites and serves such a role, using soft (C2-sym.) and hard (C3-sym.) metal centers. The ML3 catecholate complexes (M = FeIII, GaIII, TiIV, SnIV) were prepared and characterized as C3-symmetry precursors for the stepwise assembly (aufbau) of heterometallic clusters. While the single-crystal x-ray structure of the Cs2[TiL3] salt shows a C1 mer-configuration in the solid -state, room-temperature solution NMR data of this and related complexes are consistent with either exclusive formation of the C3-fac-isomer with all PPh2 donor sites syn to each other or facile fac/mer isomerization. Coordination of these [ML3]2- (M = TiIV, SnIV) metallaligands via their soft P donor sites to C2-sym. PdBr2 units gives exclusively pentametallic [M2Pd3Br6L6]4- (M = Ti, Sn) clusters. These clusters were fully characterized by spectral and x-ray structural data as C3h mesocates with Cs+ or protonated 1,4-diazabicyclo[2.2.2]octane (DABCO·H+) cations incorporated into deep mol. clefts. Exclusive formation of this type of supramol. species is sensitive to the nature of the counterions. Alkali cations such as K+, Rb+, and Cs+ give high-yield formation of the resp. clusters while NEt3H+ and NMe4+ yield none of the desired products. Extension of the aufbau assembly to produce related [M2Pd3Cl6L6]4-, [M2Pd3I6L6]4-, and [M2Cr3(CO)12L6]4- (M = Ti, Sn) clusters also was realized. In addition to this aufbau approach, self-assembly of several of these [M2Pd3Br6L6]4- clusters from all eleven components (two MIV, three PdBr2, six H2L) was also accomplished under appropriate reaction conditions.

L64 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
1996:318848 Document No. 124:351252 Removal of contaminants from flue gases. Bhat, Pervaje A.; **Johnson, Dennis W.** (Babcock and Wilcox Company, USA). Can. Pat. Appl. CA 2130767 AA 19960225, 12 pp. (English). CODEN: CPXXEB. APPLICATION: CA 1994-2130767 19940824.

AB In the title process a **metal chelate** catalyst is added to an ammonia solution and in turn the ammonia and catalyst solution is fed to the absorber tank for mixing with the flue gas. The ammonia and catalyst solution is then oxidized after mixing with the flue gas and the **metal chelate** catalyst is separated from the spent solution after the solution has been oxidized.

L64 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
1989:553652 Document No. 111:153652 Multidentate chelators based on the 8-hydroxyquinoline unit. **Johnson, David K.**; Kline, Steven J. (Abbott Laboratories, USA). Eur. Pat. Appl. EP 308757 A1 19890329, 39 pp. DESIGNATED STATES: R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1988-114864 19880912. PRIORITY: US 1987-100390 19870924.

GI

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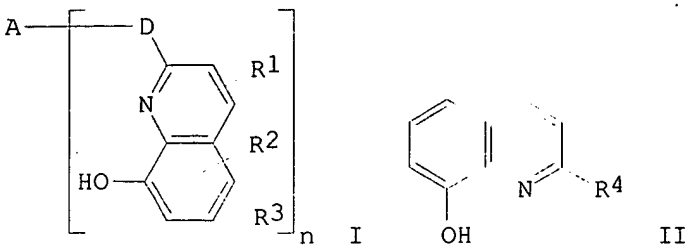

AB Multidentate chelating agents (I; A = linear, cyclic or trifurcate tri- or tetramine wherein the amine N are linked by alkane, cycloalkane, ortho-substituted Ph ring, etc.; D = group containing CO and CH2; R1, R2, R3 = H, halo, C1-3 alkyl, NO2, NO, etc.; n = 3, 4) were prepared Thus, hydrolysis of hydroxyquinoline carbonitrile II (R4 = cyano) gave 72% II (R4 = CO2H) which was treated with N-hydroxysuccimide and DCC in THF, the precipitated 1,3-dicyclohexylurea filtered, and the solution treated with Tren (triethylenetetramine) to give the hexadentate chelating agent I (A = NCH2CH2NH, D = CO, R1-R3 = H, n = 3). An 111In complex of I formed a stable conjugate with anticarcinoembryonic antigen antibody.

L64 ANSWER 8 OF 9 MEDLINE on STN DUPLICATE 2
84045855. PubMed ID: 6227107. Amelioration of mercuric chloride-induced acute renal failure by dithiothreitol. Klonne D R; **Johnson D R.** Toxicology and applied pharmacology, (1983 Sep 30) 70 (3) 459-66. Journal code: 0416575. ISSN: 0041-008X. Pub. country: United States. Language: English.

AB Experiments were conducted to determine if administration of the sulfhydryl reducing agent and **metal chelator** dithiothreitol (31 mg/kg body wt) alters the development of renal dysfunction in the first 3 hr after injection of mercuric chloride (3 mg/kg). Mercuric chloride alone resulted in elevation of urine flow rate and fractional excretion of solutes within 30 min of injection. In animals injected with dithiothreitol 60 min after mercuric chloride, urine flow rate and fractional excretion of solutes were reduced within 30 min to values intermediate between control and mercuric chloride-treated rats. Neither the injection of mercuric chloride alone nor when followed by dithiothreitol resulted in changes in mean arterial blood pressure or glomerular filtration rate. In addition, dithiothreitol did not reduce urine flow rate or fractional excretion of solutes when these parameters were elevated during extracellular fluid volume expansion. Measurement of mercury in organs of those rats injected with mercuric chloride alone or prior to dithiothreitol revealed no alteration in organ distribution. The renal cortex contained the highest concentrations of mercury, and these concentrations were comparable in both groups of rats. These studies demonstrate that dithiothreitol can ameliorate the renal toxicity of mercury and suggest that this effect is mediated through an intrarenal site of action.

L64 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
1969:529437 Document No. 71:129437 Stability trends of some 1:1 and 2:1 malonato and 1,1-cyclobutanedicarboxylato cobalt, nickel, copper and zinc chelates. Powell, Jack E.; **Johnson, Douglas Kiester** (Iowa State Univ., Ames, IA, USA). Journal of Chromatography, 44(1), 212-13 (English) 1969. CODEN: JOCRAM. ISSN: 0021-9673.

AB The formation consts. of 1:1 and 1:2 **metal chelate** species of Co, Ni, Cu, and Zn with 1,1-cyclobutanedicarboxylic acid (H2L) and malonic acid (II) were determined at 25° and an ionic strength of 0.1. With malonic acid, the order of affinity of cation for ligand is Cu » Ni > Zn .simeq. Co; with H2L, the observed order is Cu » Zn

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> Ni > Co. From the relative magnitudes of β2 values, apparently H2L buffer solns. would be highly effective eluants in cation-exchange elution separation of Co and Ni. Quant. recovery of Cu from Ni or Zn was achieved by selective elution of 0.1-2.0 millimoles Cu(II) from 2 milli-moles of the binary mixture on Dowex 50-X8 using 60-100 ml. 0.1M (NH4)1.5H0.5L.

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	43.30	1345.25

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-4.16	-18.02

STN INTERNATIONAL LOGOFF AT 09:42:51 ON 22 JUN 2004

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